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The Patient's Responsibility In Maintaining a Clean Mouth

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The mouth of civilized man is unsanitary unless artificial means to keep it clean are employed. These artificial means are the toothbrush and floss silk. The mouths of animals, on the other hand, are physiologically clean*, probably being kept so by the fibrous nature of the food upon which they subsist.

But it is not only because the nature of the food is more resistant or fibrous so as to cleanse the teeth mechanically that the mouths of animals and the savage races appear to be in a healthier condition; there seems to be another factor, of which we know little at present. Dietary experiments with animals seem to show that even though the food may be hard and sufficiently resistant to cleanse the teeth mechanically, the white deposits (plaques) are formed in certain cases in spite of this fact. This little understood factor, to my mind, is the health of the individual; if the food is not proper for the individual, be it person or animal, he or it becomes ill and this illness is shown in the condition of the gingiva and in the unhealthy state of the mouth.

A comparatively large percentage of civilized human beings have little need for teeth, if we judge from the slight amount of wear that they show. If we examine the skulls of the primitive people, we find that their teeth are worn down, showing the intense use to which they have been subjected, while the teeth of the modern races rarely show such extensive abrasion. As, therefore, we use our teeth so little, civilized man has had to have recourse to artificial means to keep them in a clean condition and therefore the toothbrush is now in fairly common use.

The reason that the teeth are so little used nowadays is due to two factors: (1) the soft, pappy nature of the food ingested, and (2) the habit of bolting the food or eating rapidly.

Few people use the toothbrush conscientiously; that is, their thoughts are not concentrated upon what they are doing, but are far away planning their day's work, and they brush energetically only those

* Bödecker. H. W. C., *The Physiologically Clean Mouth, The Dental Cosmos*, May, 1926.

areas which are most accessible. The length of time consumed in the toilet of the mouth also depends entirely upon how early the individual has arisen; if he is in a hurry, the brushing of the teeth is that part of the morning toilet which will be shortened to make up for lost time.

Concerning the length of time necessary to clean the teeth, the following experiment throws an interesting light. Ask the patient how long he brushes the teeth and you will find that you receive varying answers. Many of them will not even be able to tell you in minutes how long this procedure takes, while others will say: "Oh! about two minutes, three minutes, four or even five minutes." I believe, however, that if the teeth are brushed conscientiously for three minutes, timed by the clock—and by *conscientiously* I mean that the patient must really be thinking of what he is doing—this will suffice to keep the mouth in a clean condition.

The time best suited for brushing is naturally in the evening before retiring, for it is during the night that the acid formed by the decomposition of the food particles does the most harm. The reason for this is that during the night hours the mouth is at rest. The tongue and lips, which are in frequent motion in speaking during the day, churn alkaline saliva through the interproximal spaces and inaccessible places and neutralize the acid formed by the decomposition of retained food. But at night all this stops, the tongue and lips are at rest, and hence the acid can act uninterruptedly upon the enamel of the teeth and slowly form a cavity. The time, therefore, to brush the teeth thoroughly is at night before retiring, while in the morning a more perfunctory brushing is all that is necessary for most individuals, as well as a rinsing of the mouth after each meal to remove the food particles.

In connection with the length of time necessary to clean the teeth thoroughly it is interesting to ask the patient at what part of the procedure he considers the teeth to be sufficiently cleansed. When an individual brushes his hands, he pays attention to what he is doing. It does not always take the same length of time to clean one's hands, for it depends upon their condition. But is not the cleansing of the mouth similar to the cleansing of the hands? Yet few patients—in fact, very few—ever think of consulting a mirror to ascertain whether the teeth are actually clean on all their different surfaces. The unconscious manner and even slipshod method employed by the majority of patients in cleaning their teeth are responsible for the unsanitary and diseased condition of the mouth so often encountered. We should tell our patients that they must consult a mirror after or even while brushing their teeth in order to be certain that they have removed all the white deposits or plaques from even the most inaccessible areas. Tell them that when they manicure their nails, they do not gaze up into the sky but con-

centrate their attention upon what they are doing, and their teeth are surely worthy of a similar effort.

Another question which elicits interesting answers from the patients is: "Why do you brush your teeth?" This question is excellent, for it brings to the consciousness of the patients the purpose they are trying to fulfill. The most common answer is, naturally, "To clean the teeth." Some patients are without any answer at all, and one patient answered—and his answer, I believe, represents the common notion—"Because it is customary."

Plaques which form as the result of insufficient brushing of the teeth in the mouths of civilized human beings are in the form of a cheesy, white deposit located at the gingiva and in the inaccessible areas. I wish to impress upon your minds that *wherever this white deposit is formed, gingivitis will result*. These plaques are composed of mucus, food debris and innumerable bacteria, whose very presence irritates the marginal gingiva so that it becomes red and swollen. The location in which the plaques are most commonly found will be considered later.

The observant hygienist can in each individual case tell the patient which side is used most in the mastication of his food by noting the healthy and unhealthy condition of the gingiva. The healthy condition of the gum will always be on the side which is used most for mastication. The patient will not be able to say whether the oral hygienist or the dentist is right in this statement, for proper mastication, i. e., normal mastication, is absolutely automatic and unconscious, but at a later sitting the patient usually tells the operator that he was correct. The fact that the operator can tell the patient something about his habits that he himself has not observed will increase the confidence of the patient in the operator, because he will see that the operator is thoroughly concentrated upon his individual case. Left-handedness can be diagnosed in like manner. The poorly brushed mouth of a patient using his left hand will show the formation of plaques on the left mandibular cuspid at the gingival margin, while the right mandibular cuspid will be well cleaned. It is interesting to note the surprise evinced by the patient on hearing the operator's question as to whether he is left-handed. In patients normally using their right hands the poorly cleaned area, the area at which the plaques are most likely to form, is on the opposite side, that is, on the right mandibular cuspid at the gingival margin.

Pyorrhea alveolaris or periodontoclasia or periclasia, as it is now more often called, has become a most common disease. Many cases that are diagnosed as such are not real periclasia but are nothing but a simple gingivitis, a mere inflammation of the gingiva as a result of lack of function. However, even though gingivitis is not true periclasia, that is, a seepage of pus from the gingiva and destruction of bone, these

simple cases of gingivitis will soon develop into typical periclasia and result in the final loosening and loss of the teeth. It is, therefore, of the utmost importance that simple gingivitis be treated, restoring the mouth to a normal sanitary condition, for otherwise periclasia will result and the patient will lose the normal use of his teeth.

The cure of gingivitis, which is often the result of improper brushing and the formation of plaques, is a comparatively easy matter. Its recurrence is rapid, however, if the patient is not instructed to brush and massage the teeth and gums properly with the utmost determination. And we must impress the patient with the fact that each time that gingivitis recurs, with the consequent development of deeper and deeper pockets, true periclasia will result, with the final loosening and loss of the teeth. The dentist or the oral hygienist can cure such cases of gingivitis in a short time, but it depends upon the patient to keep the mouth in a healthy condition by a thorough, determined and conscientious massage of the gingiva. When patients have once grasped this fact, they will be eternally thankful and also be correspondingly more conscientious in the cleansing and massaging of their mouths.

Concerning this matter, H. W. C. Bödecker says: "Special stress must be laid on the fact that the success or failure of the treatment lies entirely in the hands of the patient. He must, therefore, be systematically instructed as to the significance of the white deposit (plaques) and must be brought to realize that no trouble should be spared in its removal. Though this is sometimes difficult, an appeal to the patient's sense of propriety is usually effective, if he is told that uncleanness of other parts of the body is only offensive, while the presence of white deposit is not only unesthetic but also highly injurious. The patients most easily convinced as to the efficacy of the treatment are those suffering from a more advanced stage of the disease, as they are able from the subjective symptoms to judge for themselves the improvement made in their condition. Such patients often remark that it is a pleasure to be able to bite into a roll or an apple again without that sense of insecurity from which they have been suffering for years. Others, less seriously affected, have repeatedly remarked that the mouth, after the morning toilet, feels as it did in the past after it had been cleaned by the dentist. Such patients no longer need supervision, but may be depended upon to keep their mouths in a perfect condition themselves.

"An important part of the education of the patient is to teach him to judge the state of cleanliness of his mouth. He should be so well informed that he would no more think of consulting the dentist in regard to the cleanliness of his mouth than he would of asking some one else whether or not his hands were clean. The patient must be taught to study the individual conditions of his own mouth. The white deposit is not uniform throughout the mouth, but collects more rapidly in certain

places. As these vary with the individual, their location must be determined by each patient for himself. Once located, however, these places serve as an index of cleanliness, saving the patient the trouble of repeatedly controlling all parts of the mouth. The examination should be made before a mirror, and, as an instrument, a metal or quill toothpick should be used. It is rarely advisable to place a dental probe in the hands of a patient.

"The rapidity with which white deposit forms varies not only among individuals, but also at different times in each individual. Digestive disturbances and general diseases are important factors in increasing the rate of deposit; only the patient, therefore, is able to judge how often during the day it is necessary for him to clean the mouth. Further, the patient must be taught to recognize even slight inflammatory conditions of the gum; he must be acquainted with the difference in color of normal and inflamed gum tissues and with the fact that healthy gums do not bleed."

Those areas most susceptible for the deposition of plaques are surfaces of the teeth not readily kept clean by the stress of mastication or not easily accessible to the toothbrush. They can be grouped into four classes and are found preeminently at the crevices or necks of the teeth and in the interproximal spaces:

(a) Mandibular cuspid and bicuspid of the right or left side, dependent upon whether the individual is right-handed or left-handed.

(b) Lingual crevices of the mandibular first, second and third molars.

(c) Buccal surface of the maxillary third molar.

(d) Mesio-approximal space of the mandibular second molar in case the first molar has been removed in youth.

The four areas just mentioned are those which are most easily neglected by a patient, even though he considers that he conscientiously brushes his teeth. If the mouth is, however, in a really unsanitary condition, other areas readily accumulate plaques, such as the gingival margins of the labial surfaces of the mandibular incisors and various areas on the maxillary teeth. There appears to be a general tendency among patients to pay greater attention to the cleansing and brushing of the maxillary teeth, while the mandibular teeth are often found to be in a decidedly unsanitary condition.

(a) The mandibular cuspids and bicuspid occupy a region which the patient can readily see in a mirror, and if he will conscientiously watch these areas, he will be able to check up on the thoroughness of his brushing. As mentioned above, if the individual is right-handed, it will be the right cuspid that will accumulate plaques most readily, while in a left-handed individual the left mandibular cuspid will be the one so affected.

(b) The lingual crevices of the mandibular first, second and third molars are also very commonly neglected in brushing the teeth. The reason for this is probably that the tongue prevents ready access to the toothbrush.

(c) The buccal surfaces of the maxillary third molars are particularly inaccessible and as a result are often covered by thick plaques, which sooner or later cause the decay of these areas. Their inaccessibility to the toothbrush is due in many cases to the ascending ramus of the mandible, making it impossible for the toothbrush to obtain ready access and thus allowing the plaques to accumulate.

(d) The mesial surface of the mandibular second molar, in case the first molar has been removed in youth, is the fourth area particularly susceptible to the deposition of plaques. Owing to the absence of the first molar a V-shaped space is formed, even though the occlusal surfaces may be in contact, which constitutes a shielded area in which both food debris and plaques can readily accumulate. If this area is not thoroughly cleaned and the attention of the patient is called to the necessity of constantly brushing and massaging thoroughly not only the teeth but also the gingiva, then a deep pocket will soon form.

In examining these areas upon which plaques have formed the operator will be struck by the unhealthy appearance of the gingiva. He will find that wherever plaques, that is, the cheesy, white deposit, are present, the gingiva will be reddened. I wish to be most emphatic about this point—*wherever plaques accumulate, the adjacent gingiva will become inflamed.*

DENTAL COSMETICS

The value of dental cosmetics in the form of tooth-pastes, powders or mouth washes is greatly exaggerated in the minds of the public. Many believe implicitly in the advertisements of the manufacturers and are often surprised that these remedies do not fulfill their promises. They frequently regard the toothbrush merely as an instrument to spread the tooth-paste or powder upon their teeth, forgetting that the principal function of the toothbrush is to *remove the bacterial plaques and food debris*. It is true that a tooth-paste, in experiments made in the laboratory, may be able to destroy millions of bacteria in a specified length of time, but the conditions in the mouth are not the same as they are in the laboratory. Patients forget that unless every vestige of food debris is removed from the teeth, the bacteria, which multiply with great rapidity, will be able to continue their devastating action a half-hour or an hour after the teeth are brushed. It is necessary, therefore,

to impress upon the minds of the patients that the principal action of the toothbrush is to remove food debris, while the function or use of dental cosmetics is simply to *facilitate* the removal of the plaques and to give the mouth a pleasantly refreshed sensation.

The irritating action of the plaques upon the adjoining gingiva is not their only deleterious effect, for they are also often responsible for the so-called sensitive necks of the teeth. The operator will find that upon the removal of the plaques he frequently notes that the necks of these teeth are particularly sensitive in comparison with those which have not been so covered. The cause of this sensitiveness of the necks of the teeth under plaques is probably due to the formation of acids, which irritate and decalcify and thus injure these areas. When these necks have once become sensitive, the patient naturally avoids thorough brushing and thus allows a greater and greater accumulation of plaques, resulting in an increased aggravation of the condition.

In regard to the technic of brushing H. W. C. Bodecker says: "The only specific directions given to the patient are those regarding the manipulation of the brush. In none of the usual methods of brushing do the bristles penetrate into the interdental spaces or under the margins of the gum. The observations made in the Orient, however, readily suggested a method of using the ordinary toothbrush to accomplish this same purpose. Suppose the attempt were made to clean a comb with an ordinary brush. No amount of brushing in any direction would clean the spaces especially at the base of the teeth. The only way to accomplish this would be to force the bristles into the spaces at right angles to the teeth. This is practically the method used by the Somali when he cleans the teeth with his wooden brush, or what our ancestors did, to a limited extent, when they cleaned their teeth with a toothpick. The patient readily understands what is required of him, if he is taught that the toothbrush is not an implement with which to brush the teeth, but that it is to be considered solely as a bundle of toothpicks, and that it should be used as such only.

"In the beginning a certain amount of awkwardness must be overcome, but the technic is soon learned, if the patient begins by practicing on the anterior teeth. The margin of the back of the brush is held close to the necks of the teeth, while the bristles lie upon their labial surfaces. The brush is then rotated outwardly until the bristles come in contact with the margin of the gum. The object of this procedure is to prevent the ends of the bristles from injuring the tender gums, which would occur if the brush were to be applied at an oblique angle. As soon as the bristles are in the position at right angles, the brush is forcibly pressed against the surfaces of the teeth and is firmly held in place while being slightly moved both vertically and horizontally with a

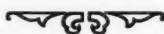
vibratory motion. While the longer bristles penetrate deeply into the interdental spaces, the shorter ones sweep over the surfaces of the teeth and under the margins of the gum. After having thus cleaned the teeth on the labial surfaces, the same process must be repeated lingually. For this purpose the longer tuft at the end of the brush is specially adapted. Gradually the patient will learn to manipulate the brush in accordance with this method in all parts of the mouth. Later he may even alter the method to suit himself. There is no objection to this, if he is able to keep the mouth free from every trace of white deposit . . .

"As a rule, even when no marked inflammation is present, the gums will bleed at the beginning of this treatment. Soon, however, this ceases and the tissues become firm and healthy in color. The force then used in cleaning the teeth may, without harm, be so great as to snap the celluloid handle of a toothbrush. If bleeding again sets in later on, it serves as a warning to the patient that a certain spot has been for some time neglected. He may be able to check the bleeding himself by more thorough cleansing. Should he be unsuccessful, he must consult his dentist, as the inflammation is then caused no longer by white deposit but by the calculus into which it has been transformed."

In conclusion, I wish to emphasize the fact brought out by my brother that it is lack of function that is responsible for gingivitis, gingivitis which later develops into true periclasia. If we regard other parts of the body, we note that function maintains the normal state of an organ, and experience has shown that *function also maintains the gingiva in a normal healthy condition*. As, however, the state of the food of civilized man is soft and pappy, needing little mastication, it does not generate sufficient friction upon the gingiva. And so man must pay the penalty by using a toothbrush—and using it vigorously—to replace the friction which was caused in the past by chewing hard fibrous and resistant foods.

It is perfectly natural for the patient to believe that when the gum bleeds he has injured it, and therefore he exercises greater care in the use of the toothbrush. He procures softer and softer brushes, some patients even going to the extreme of believing it to be impossible to use a toothbrush and attempting to clean the teeth with a handkerchief or cotton. This leads to extremely unsanitary and pathological conditions. Therefore, impress the fact upon the patient that those areas in which the tissues are inflamed and bleed readily need *more*, not less, brushing; that they need more massage, and that only in this way can they hope to retain their mouths in a physiologically clean condition.

302 East 35th Street.



Porcelain Manipulation

A PRACTICAL TECHNIC FOR THE GENERAL PRACTITIONER

By F. R. Felcher, D.D.S., Chicago, Ill.

XVIII

PORCELAIN PONTICS

Porcelain pontics are used in two forms, the root pontic and the saddle pontic. These restorations have found great favor since they have been in use and at the present time they are being manufactured in regular stock moulds and are obtainable in supply houses. That the commercially made pontic fills a great need is beyond question. In some instances these pontic teeth can be used without any "touching up." However, many cases will require either the addition of porcelain or grinding and subsequent glazing, and, of course, many will need the

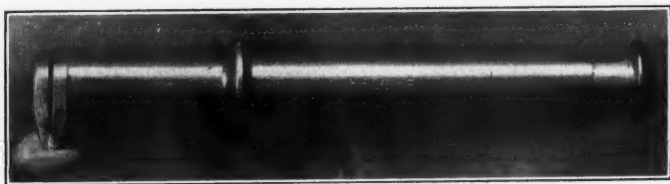


Fig. 56

Root former with root pontic.

addition of porcelain for contour-changing. There will always be cases where pontics will have to be made by the ceramist, and it is of these that this article will deal.

A brief description of a pontic tooth is given as a facing with porcelain built at the top or gingival portion, this porcelain being shaded to resemble an individual saddle (saddle pontic) or having the porcelain built to resemble a slight root (root pontic). The porcelain extends toward the lingual surface, the circumference of which follows the width of the facing at the neck of the tooth. It is generally built so that the base, or the portion of the pontic which faces the incisal, extends from the tooth upward toward the gingival. This facilitates the removal of the casting wax pattern. There are root formers on the market which hold a pin facing and maintain the correct angle. One designed by the author is illustrated in Fig. 56.

The indications for this type of work are in cases where there have been recent extractions or where porcelain saddles are desired (Fig. 57), and either of these types enables the restoration of the lingual

anatomy, which tends to greater comfort for the patient. Possibly the greatest indications for root pontics are found in the cases of very recent extraction. Porcelain and the tissues are compatible, and, where the porcelain is properly fused or glazed, the restoration is ideal from almost every viewpoint.



Fig. 57
Saddle pontic.

The advantages of pontics are many. As just stated, porcelain is compatible with the tissues, possibly more so than any material that is used in the mouth. The application of these teeth to cases where teeth are to be extracted tends to prevent in a small degree sinking of tissues and gives the tooth a more natural appearance. The fact that each of these cases presents the restoration of the lingual anatomy is not to be lost sight of, as it not only restores occlusion and gives comfort but helps to eliminate pockets. This, of course, helps to preserve a healthy appearance at the gum areas.

There are disadvantages in this type of work, but the main difficulty will be found in replacements. To simplify replacements, a record should be kept of the mould and the shade of the tooth used so that in the event of breakage the selection of the facing will be quickly accomplished, after which an impression, an amalgam die and subsequent building up will enable the operator to fit a new tooth to the case.

The pontic should not be built to extend too far, for then a recession of the tissues will occur. The writer has had many cases called to his attention where pontics were built too long, causing recession which exposed the porcelain roots, in some instances entirely. Root pontics which are built to extend a few millimeters into the tissues are sufficient, and saddle pontics should be made to fit models from which about $\frac{1}{2}$ mm. of plaster has been removed.

CONSTRUCTION

A medium-fusing or a medium-low-fusing porcelain should be used in building pontics on facings. Facings of the long-pin type containing platinum or high-fusing metal pins must always be used. As the porcelain will adhere perfectly to the facing, it is not necessary to grind the facing except for the fit. A fine combination of contour-changing

and pontic construction can be accomplished by making the pontic first, using a medium-fusing porcelain (2300°), and correcting the contour with the use of the medium-low-fusing porcelain (1900°). Where experience prevails, both operations can be made at the same build-up by using the same-fusing porcelain, the work biscuited, ground and finally fused to the proper state.

A simple method for the construction of pontics is as follows:

Select a proper facing for the case, and, if necessary, grind to position. Place the tooth in the root former. Select the porcelain of the proper body color. Mix the porcelain to the proper consistency and then apply with the carver. Vibrate from time to time, which will allow the excess water to come to the surface, removing the water with the plaster pencil. As has been previously explained within these pages, this tends to condense the porcelain and to minimize the amount of shrinkage in firing. Have a tray so constructed that the tooth will rest on the incisal and the pins, and do not allow the tray or silex to come in contact with the porcelain to be fired. Place the tooth on the tray and allow it to dry before the hot open muffle. After drying, place the work under the thermo-couple. The porcelain must be burned white before the door is closed. For medium-fusing porcelain bring the temperature rapidly to 1900° and carry to 2200° , allowing about six minutes to reach that point. Ordinarily this will give a biscuit bake. As it is desired to fire the work completely and to grind and glaze, hold the temperature constant at 2200° for the required number of minutes (approximately three or four minutes will suffice). Remove the work, place under a glass and allow to cool.

Medium-low-fusing porcelain can be used as follows:

Build the work, dry, place in the furnace, and, after the door is closed, bring the temperature to 1900° and maintain the heat for from six to seven minutes. After the pontic has been fused, grind to fit the case, disk carefully and cover with a glaze. Refire to fuse the glaze, and the pontic will be ready.

The technic for glazing will be described later.

BUILDING A BRIDGE WITH PONTIC DUMMIES

In cases where root pontics are to be used, the question as to whether to remove the teeth before or after the bridge is made is one to be decided by the operator. Some operators prefer to allow the teeth to remain until the bridge is ready for setting, and the following method can be used in constructing a bridge for this type of case:

The abutments are first made and placed in position on the teeth, after which a good impression and bite are taken and models made and articulated.

Where the teeth are allowed to remain in the patient's mouth, the teeth in the model are now cut away from the articulator model. Select the proper facings and grind them to position, then bake the pontics. After these are ready, assemble them in position on the model, using wax on the lingual surface. Now make a core in the following manner:

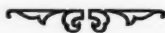
Cover the front of the model, including the teeth, with a thin film of oil, and make a fairly thick mix of plaster, which should be run over the teeth. Allow it to set and then trim away any unnecessary plaster. Be sure that the closing of the articulator is not interfered with. Remove the core and clean the teeth from wax. Now, with a good inlay wax, shape up the patterns for the lingual castings. The core in position with the teeth will enable carving to articulation. Carve each pattern separately. Remove the wax and insert carbon points in the holes left by the pins of the teeth. Invest and cast. After casting, clean, drill out the carbon points with a small bur of suitable size, and fit the castings to the teeth. With the core in place, check for occlusion, then assemble the case, remove the core, invest and solder, tacking the bridge by flowing solder between the teeth only. Complete by polishing, cement the teeth in position and then insert. Express mention is here made that ground pontics should never be placed against the tissues. If this occurs, be sure to glaze the ground surface.

REPLACEMENT OF BROKEN PONTICS

The question of replaceability in the event of fracture of a porcelain pontic tooth may well be considered here. In case of a fracture of the pontic tooth the following method of replacement can be used to complete satisfaction:

Remove all portions of the broken facing and grind out the pins from the casting. If the record of the mould and the shade of the tooth has been kept, the selection of the proper tooth will be made easier. Otherwise, select a facing to fit the case as closely as possible, grinding if necessary. Now secure a good modeling-compound impression of the case, making sure that the impression accurately reproduces the cast portion to which the pontic must fit. Build a wax boxing around the impression, invest in plaster, and, when set, make a dense amalgam model by packing into the protected boxing. Allow this to set properly. Remove from the boxing. Drill holes the size of the pins, fit the facing to the proper position and build the pontic to fit the model.

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The Rise and Fall of Oral Hygiene In Bridgeport

By George Wood Clapp, D.D.S., New York, N. Y.

NINTH ARTICLE

HELP FROM WITHOUT

If the story of the dental work in the Bridgeport schools has been properly told, it has made clear Dr. Fones's conception that dental health is dependent on bodily health. The instruction in the classrooms in diet, posture, etc., was arranged to develop a sound body as a foundation for a mouth healthy enough to stay clean and for teeth that would stay whole with a moderate amount of care.

There was now to come into the picture very important help from a new agency which was to avail itself of the special knowledge possessed by the hygienists and utilize them more widely and effectively than the dental clinic alone had done. Because such help may be very important to dentists who are working elsewhere for oral health in all school children, the story of its origin, personnel and activity is worth the telling.

The Van Sickle report on the conditions in the public schools urged strongly that an assistant superintendent be selected by the superintendent and confirmed by the Board of Education. There was one principal who had given unusual evidence of his fitness for such a post, Mr. E. E. Cortright, and the position was tendered to him.

Mr. Cortright had come to Bridgeport in 1911 as principal of the Shelton Grammar School and had given satisfaction. The conditions revealed as existing in the City Normal School called loudly for correction. To effect this in the manner most likely to be satisfactory, the City Normal School was moved to the Shelton School building, and the entire school was placed under Mr. Cortright's direction. He was instructed to make such changes in the faculty as he considered that the welfare of the school required and to make any necessary alterations in the teaching plan. The quarters proving too small, the Madison School was added to the Shelton School and Mr. Cortright was made responsible for the guidance of the Shelton and Madison Grammar Schools and the City Normal School. A year of intense activity on his part followed and by June, 1917, everything was running in a satisfactory manner. In September, 1918, Mr. Slawson, Superintendent of Schools, asked Mr. Cortright to enter his office as assistant superintendent. He declined to do so but, on being pressed, promised to consider the matter.

Mr. Cortright passed in mental review the facts that 40% of the children in the public school system were over age for their grades; that the cost of re-education for those children the previous year had

been over \$40,000; and that the character of the city was industrial with a high percentage of foreign-born population, many of whom were not being properly absorbed into the American body politic. He came to the conclusion that the problems of the over-age children, the great expense for re-education and the retarded Americanization were more or less interwoven, and that it might be possible to find a solution for all of them. He told Mr. Slawson that he believed two additional courses to be urgently needed in the curriculum, a course in health and one in citizenship, and that both courses should eventually be made requirements for promotion from grade to grade. He consented to become assistant superintendent on condition that he be permitted to formulate such courses and supervise their introduction into the schools. Mr. Slawson promptly accepted the proposal, and Mr. Cortright was appointed assistant superintendent in October, 1918. He gave the following summer to the formulation of the courses.

Many obstacles interfered with the launching of the new campaign in September, 1919. The country was in the throes of the influenza epidemic. One of the candidates who came to Bridgeport to fill Mr. Cortright's place as principal of the three schools arrived on Monday and died on Wednesday. A few days later the superintendent of schools was taken ill and did not return to his desk until February, 1919. In the meantime, the principal of the high school resigned. Mr. Cortright immediately assumed the duties of superintendent and assistant superintendent and carried on as well as possible.

TEACHING A NEW CONCEPTION OF HEALTH

Save for what the dental hygienists were doing in the schools, the care of the health of the school children was in the hands of the Board of Health, operating mostly through the Health Officer, represented by a medical inspector, and a corps of school nurses. Their viewpoint was wholly corrective—the repair of the pathology after it appeared.

Mr. Cortright's conception of health was entirely different. He believed that health was a positive thing, and that it could be so taught that the child could learn to prevent or control many of his own disabilities. He was under no illusions as to what must be done. He did not dream that corrective work could be lessened until education in health principles became sufficiently effective to make it unnecessary, but he felt that no amount of corrective work that the city could ever do would dry up the ocean of physically unfit children and answer the problems that they impose upon the educators of the city.

HIS FAMILIARITY WITH FONES'S WORK

Few people were better informed than Mr. Cortright as to the work in the schools upon which Dr. Fones had then been engaged since 1914.

When he came to Bridgeport, he was in need of dental work and was referred to Dr. Fones by one of his enthusiastic patients. He was treated by Mrs. Irene Newman, Dr. Fones's hygienist, and was placed on a regular schedule of return visits, once a month at first, then once in six weeks, and finally once in two months indefinitely thereafter. Not only was the benefit to his oral condition very great, but his general health improved in such way as to show him that it had fallen far below par without his knowledge. He became an earnest supporter of the controlled dental practice, not alone for its value to the mouth but also for its value to the general health.

Early in 1913 Mr. Cortright's daughter Enid became chair assistant to Dr. Fones. She was a member of the first class of dental hygienists and has been a hygienist in Dr. Fones's office since that time. To her is due the credit for the assemblage of most of the information concerning Dr. Fones's activities which forms the basis of these articles.

THREE PHASES OF THE HEALTH PLAN

Mr. Cortright planned to divide the health instruction into two parts, one classroom teaching of the principles of health and the other what an educator calls *practical projects*, that is, having the children do things that would teach them what they should know.

He knew that no person learns so well as he who prepares himself to teach another, so he planned to have the older children learn to do something for their neighbors. A child's neighbors are his parents and other children. The sum of all his neighbors is the community. And that demonstrated the inseparable character of health and civics. So *practical projects* in civics became a part of the instruction.

HEALTH AND CITIZENSHIP AS PROMOTIONAL REQUIREMENTS

No one can work with the health activities of our public schools for even a short time without beginning to realize the appalling weight of inertia in the homes of such people as then formed a large part of the population of Bridgeport. There grew up side by side some conception of the amount of money and effort needlessly consumed in overcoming the ignorance and indifference, and dreams of the marvelous things the school system could accomplish if active cooperation in the homes could be secured.

Mr. Cortright knew that when the children took their report cards home, the parents gave close attention to those subjects required for promotion and but little attention to those subjects not required for promotion. Few indeed are the homes in which the parents are indifferent to the rate of progress through the school. Perhaps fewer are the parents keenly interested in subjects not required for promotion. He knew that if he could make the courses in health and civics require-

ments for promotion, many parents who would otherwise be indifferent would require the child to make a good showing and would be more likely themselves to do what was necessary. That program could not be carried out quickly, but plans to put it into operation were laid.

THE ATTITUDE OF THE COMMUNITY

Perhaps the mental attitude of the average American community was then more favorable to the introduction of such a program than it had ever been before. The examination of young men for the A. E. F. had shown that about 54% of our young men, of whose physiques we had unthinkingly been so proud, never become physically efficient in a military sense. We learned also that, largely as the result of ills that began in youth, two men in every three in this country either are on the physical scrapheap at the age of 36 or are within plain sight of it. It came home to us as never before that something had to be done to remedy such a state of affairs. And the conviction formed itself in most minds that, as it had to be done in childhood, the public school was the proper instrument for doing it. That put it squarely up to boards of education.

NON-TECHNICAL AND TECHNICAL INSTRUCTION

Mr. Cortright divided the classroom work into two parts and made up his own program of procedure. One part of the program was non-technical in character. For this ample material was available from textbooks, and this was to be mastered and taught by the teachers.

The other part of the instruction was to be technical. For this sort of instruction he planned to avail himself of the services of the dental hygienists. They were to teach the fundamentals of diet and oral cleanliness. They had been educated in anatomy, physiology, posture, etc., had been studying and teaching diet for years and had been given training in pedagogy, so that they could appear well and present their matter instructively. They were the only technically trained teachers available for this work and were welcomed with open arms by principals and teachers. The fact that they were far superior for this work to the nurses employed by the Board of Health was to be the cause of jealousy, which was later to contribute its bit to the unpleasant conditions that were to come to pass.

As soon as the teaching personnel was sufficiently recovered from the ravages of the influenza to be back at work and Mr. Cortright was free to take up his proper work as assistant superintendent, he began the labors of presenting his plan to the teachers and principals and winning their approval. It is hardly to be expected that teachers already overworked and underpaid would welcome an extension of their labors. But the whole country had recently passed through a chastening expe-

rience, and most of them came to the subject with open minds. Mr. Cortright spent the early part of 1920 in the classrooms and in teachers' meetings presenting his views on the subject, and when the schools were closed in June, the idea had won the approval of practically all of the teaching staff. It was planned that active operations with the student body should begin in September.

PRACTICAL PROJECTS

Children nowadays take very little interest in dumb-bells, either mental or wooden. The old, set forms of calisthenics were therefore tabooed.

Courses in health and civics may be likened to solvents, which can be applied to many kinds of subject matter, or to cargoes, which many kinds of ships can carry, so they were interwoven with the subjects of geography, writing, spelling, art and science.

Such courses may be made the vehicles for teaching responsibility for the welfare of others and for the exercise of delegated authority. In several of the schools local boards of health were organized and made responsible for the sanitation of the school grounds, including the removal of litter, for the conditions of the school basement, and for the temperature control in rooms by thermometer readings and ventilation. Safety patrol boards were organized in the schools, and, in schools where there were eighth-grade children, patrols for the control of street crossings for the younger children. Appointments to any of these boards or patrols were highly prized by many of the pupils who received them.

Among the practical projects was a very important one for girls only. Domestic science classes formed part of the school work for all the seventh-grade and eighth-grade girls. Beginning about 1920 the work in these classes was harmonized with the classroom teachings by the dental hygienists, and only whole grain flours and meals were used in making break, cookies, pies, etc., and the use of natural sugars—honey, maple syrup, molasses, etc., was taught.

The Board of Education was fortunate in having in Mr. Harvey C. Went a director of physical education who was qualified to carry out in an effective manner his important part in practical projects. Companies were drilled for Memorial Day parades, after-school athletic teams and springtime hikes were organized, and at other times trips were made to New York and West Point.

It is worthy of note that in a total of 321 accidents reported by the Bridgeport Police Department from January 1, 1923, to April 30, 1923, only 30 children were injured and three killed.

A CLOSER INTEGRATION OF EFFORT

The employment by the school authorities of the dental hygienists

as teachers of diet and oral cleanliness in the classrooms naturally brought about a closer union of effort between them and the teaching staff than had been possible before. No longer were they on the outside working inward. They were now on the inside standing shoulder to shoulder with the teachers, supplying information and helping to solve their problems. This change made its force felt in new achievements.

For some time the hygienists had been teaching the benefits of whole wheat flour as compared with white flour and of whole wheat bread as compared with white flour bread. When the families began to respond and sought to buy such flour or such bread, they found it difficult or impossible. The hygienists were unable to refer them to places where they could be obtained.

Before we too wholeheartedly condemn the stores that did not sell such flour and bread, let us get their viewpoint. Patent flour can be made in any quantity, at any time, anywhere, may be shipped as desired and kept as long as wanted. It does not mould, does not readily take up water, and no animal but man will touch it. This is convenient for both miller and baker. It is also easier to make a readily salable loaf than with whole wheat flour. It is backed by extensive, attractive and persuasive advertising and selling campaigns.

On the other hand, whole wheat flour must be bought near-by in small quantities, it moulds easily, all the animals seek it, and it is not so easy to handle. It is not backed up by great advertising campaigns, and the demand is small and perhaps uncertain.

The hygienists took the point of view that the health of the community was more important than any commercial advantage or profit to millers or bakers. They obtained several small grinding machines and gave demonstrations of the way in which grain could be ground so as to retain all the food value. These demonstrations were more educational than practical, but they helped the cause along.

The Bridgeport Hydraulic Company had maintained for several years a custom mill a little way from the city known as the Samp Mortar Mill, at which it ground meal. Early in 1920 Mr. Cortright persuaded this company to put on the market a whole wheat flour, and everybody interested in the work joined in a campaign to bring the flour to the attention of the households of the city. The Betty Brown Bakery put out an attractive and delicious line of bread and cookies, which immediately met with a favorable reception.

All these activities aroused the bakers who were unwilling to accept the new order of affairs, and they sent a delegation to visit Dr. Fones and say to him something like this: "Dr. Fones, we are in sympathy with what you are doing with the children's teeth, but not with what you are teaching about whole wheat flour and bread. You are ruining our business, and we shall have to see to it that you are stopped."

For several years Alfred McCann had been carrying on an active campaign for natural foods in place of denatured foods through the columns of the *New York Globe*. In May, 1922, he lectured in Bridgeport under the auspices of the Connecticut State Dental Hygienists Association. In describing the event he wrote in the *Globe* somewhat as follows:

"Fones had gathered together about a thousand people. We talked for two hours, and questions were asked until we thought no one had a home to go back to. Fones had projected himself into the soul of the community, and a dry subject was not dry to the mothers of Bridgeport, who realized that the future will take no more out of their children than they put into them in the present. Fones had been telling them this for years. Last Friday night we tried to show them how right he had been.

"Saturday night Bridgeport went crazy. The white bread bakers got out fifty wagons and organized a parade. Now they are to have White Bread and Milk Week. Unable to meet the Fones argument, the white bread bakers are going to outdo him in noise, clamor and public spectacle."

The white bread bakers did not meet with wholehearted support where perhaps they expected it most. There were some storekeepers who were compelled to sell what their patrons demanded, but who really cared something about the welfare of the community and were glad to have an opportunity to contribute to it. Among these was Peter Davey, head of a great chain of stores, whom McCann quotes as follows:

"Let them yell their heads off. I know Fones is right. I must sell white bread to those who foolishly demand it or go out of business, but I can also sell the real thing to those who have sense enough to feed it to their children."

McCann adds: "Davey is now selling a thousand loaves of whole wheat bread a day, in addition to many packages of flours and cereals ground by the Samp Mortar Mill."

Logan Brothers, another great grocery chain, joined the campaign and did their utmost to further the use of whole grain breads and cereals.

The opposition bakers and their fifty wagons could not stand out against this. Soon twenty-two bakeries in the city were offering whole flour products, and many of them continue to do so until this day. The use of such flours is still very common in Bridgeport, but, as will be explained in a future article, the motive power that introduced it has been slaughtered and the achievements are less and are less effective than they might easily be.

The baker who was the spokesman of the delegation that visited

Dr. Fones and threatened to put him out of business finally saw the light and himself offered whole grain products to the community.

(The Tenth Article deals with one of the most important phases of the preventive dental clinic—the methods employed to reduce the cost of service. Dr. Fones foresaw that a strictly repair clinic would finally become prohibitive in cost, and from the beginning he planned not only to avoid such cost but to reduce the necessity for repairs. After a time the results began to show, just as he had anticipated.)



[HIGH RESISTANCE NECESSARY]

Health is a relative thing. We may possess it in varying degrees, and as the degree of health increases, susceptibility to disease decreases. As health becomes lower in degree it may not change directly to disease, but resistance to disease is lessened and the individual or the tissue is then said to be in a state of susceptibility. When dealing with tissues which are so constantly exposed to pathogenic agencies as are the mouth tissues, it is not enough that we provide a moderate degree of health. Resistance to those agencies can only be secured through the building up of the highest degree of health.

—STILLMAN.

Reminiscences—Mostly Anesthetic

By William H. DeFord, D.D.S., M.D., Des Moines, Iowa

NINTH ARTICLE

Shortly after the New York meeting I was invited by Dr. Otto U. King to read a paper and give a somnoform clinic at the next annual meeting of the Indiana State Dental Society to be held at Indianapolis, which I accepted. This was my second appearance before this association.

Prior to the opening of the meeting, while walking among the dental exhibitors, who were busy unpacking and getting their exhibits ready for inspection, I noticed a group of a dozen or more men, and just as I joined the group, I heard the object of interest say: "That 'guy' DeFord is here to give instruction in somnoform administration, and if you fellows want to see some fun, just watch me! I am going to make a monkey of him. When he invites those present who want a practical demonstration of analgesia and anesthesia to take the chair, I am going to take my seat in his chair and, after a few inhalations, yell and scream so that I will be heard all over the room and attract a crowd, then hold my breath until I am black in the face, slide out of the chair and pretend to be dead, so that he will have to take measures to resuscitate me." I learned afterward that this man had an exhibit and was demonstrating a nitrous-oxid appliance. What should be done in a case of this kind? I realized that he could make it very uncomfortable for me if he carried out his threat. I studied his features closely so that I would be able to recognize him on sight.

In a previous article I referred to a physician at Atlantic, Iowa, who accused me of having hypnotic control over my patients, and if I did possess any such influence, this was the time to make use of it. I knew that if I could get this man to take as many as two inhalations of somnoform with the kind of breathing I should insist upon in his case, there was no need to worry—he would not yell, scream nor slide out of the chair!

I usually gave about a thirty-minute talk before inviting the members of the audience who were sufficiently interested to test or experience somnoform analgesia or anesthesia to take a seat in the chair. The man referred to was standing in front of me in the third row. I was hoping that he would be the first one to volunteer, because the kind of breaths I was going to insist on his taking was very much deeper than I would want those to take who might precede him, and he might observe that and follow the advice I gave them. If he did, then he could carry out his proposed plan to embarrass me and I could

not prevent it except by refusing to go on with the demonstration, explaining why.

I recognized also that in some manner I must change his thoughts, must get his attention and fill his mind with something very different from what he had planned to do, and that I must suggest something so strongly that he would act on my suggestions rather than do what he intended. He was the third man to take a seat in the chair. I stood on one side and a little in front of him, explaining how I wanted him to breathe and had him breathe in that manner several times in order to establish a correct habit. I adjusted the inhaler, told him he would have an enjoyable experience, see beautiful flowers, hear sweet music, meadow-larks and mocking-birds, and he was sound asleep in a deep surgical anesthesia. I told those looking on what he had threatened to do, so that they would be prepared for anything that might happen. As he showed signs of awakening, I again called his attention to flowers, birds, etc. When he was fully awake, I asked him what kind of an experience he had had.

He replied, "Oh, fine—flowers, birds and everything!"

Did you have any desire to yell, scream or pretend you were dying?"

He said, "I forgot all about that!"

My wife, Dr. Jessie R. DeFord, can induce analgesia or anesthesia twice as quickly as I can, with half the amount of anesthetic, by using suggestions both going under and coming out.

On a former occasion Dr. J. R. DeFord and I had appeared on the program of the Pennsylvania State Dental Society at Pittsburg, giving a paper, clinic and demonstration on anesthesia, so when Dr. H. E. Friesell, Dean of the University of Pittsburg College of Dentistry, invited us to come and conduct a school of instruction for a week, we gladly accepted his kind invitation. But when we arrived and Dr. Friesell explained what was expected of us, we were almost sorry we had accepted. We supposed that he had wanted us to do some work with the students and set them right on the question of analgesia and anesthesia for dental purposes, but we found that a group numbering forty-eight of the foremost dental surgeons of Pittsburg, including members of the faculty, constituted the class.

The arrangements made for instruction were admirable. Two good-sized rooms had been equipped with chairs, nitrous-oxid appliances and everything needed, and, besides, there were two lecture rooms. The class was divided into two sections with twenty-four men in each section. Section No. 1 was assigned the hours of nine to twelve in the morning, Section No. 2 from two to five o'clock in the afternoon, and the entire class assembled in the lecture room each evening from seven to eleven for a lecture and quiz. Dr. Jessie R. held a meeting in another room

each night from seven to ten with the assistants of the members of the class, explaining what was expected of a dental assistant in an office where a general anesthetic was employed in daily practice.

Dr. J. R. conducted the nitrous-oxid instruction, and the writer the somnoform instruction. We insisted that each member of the class should submit himself to both nitrous oxid and somnoform induction, to comprehend better what patients experienced.

There was only one disappointment so far as we were concerned during the entire session. The Pittsburg Medical Society, through Dr. Friesell, had invited the writer to attend its meeting Saturday night of that week and give a talk and demonstration of nitrous oxid and somnoform as they could be used to advantage by the physician and surgeon. However, we were both so mentally and physically exhausted that when Saturday night came we found it impossible to attend.

About this same time I received a letter from a dental practitioner in Western Indiana, near Chicago, saying that my book had been the means of making him desirous of a career in anesthesia. Later he became a demonstrator of a nitrous-oxid appliance and spent much time in demonstrating this appliance and giving anesthetic instruction. This man was Boyd Gardner, now head of the Dental Section at the Mayo Clinic.

On one occasion, when I read a paper before the Pennsylvania State Dental Society, six men were on the printed program to discuss my paper, and each one prefaced his remarks by saying that he had become interested in anesthetics through reading my book. Hundreds of others by letter and word of mouth have expressed their appreciation of being helped by some word, paper, clinic or demonstration of mine.

This article is in all probability the last contribution I shall ever make to dental literature, and the thought of having said or done something helpful to others is very comforting, consoling and precious to me.

I am glad to have known personally Boothby of Boston, Gwathmey and Hasbrouck of New York, Thomas of Philadelphia, Teter of Cleveland, McKesson of Toledo, McMechan of Avon Lake, Ohio; Guedel of Indianapolis, Slonaker and Nevius of Chicago, Heidbrink of Minneapolis, Gardner of the Mayo Clinic, Winter of St. Louis, and Arthur Smith of Kansas City—all have been sources of inspiration to me.

We have induced analgesia and anesthesia 140,000 times, using mostly nitrous oxid and oxygen, chloroform and somnoform, and have never had a death. Never in our lives have we seen a patient who had the least postoperative discomfort from the anesthetic agent employed, or swelling, necrosis, partial or complete paralysis, or any functional disturbance that could be attributed to the anesthetic.

Oral Surgery In Practice

By James L. Zemsky, D.D.S., New York, N. Y.

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(Continued from August)

MAXILLARY SINUSITIS

¶262. Diseases of the maxillary sinuses occur much more often than is usually suspected, which accounts for the frequency with which dental surgeons meet sinus complications following some extractions and other oral surgical operations closely approaching the sinuses (cysts, impactions, retained roots, etc.) (See Figs. 283-284.)

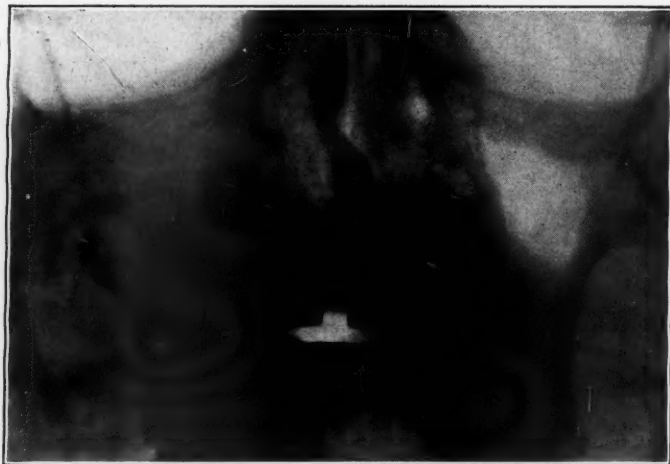


Fig. 283

CYST, IMPACTION AND SINUSITIS

Roentgenogram of a head taken in an anteroposterior position. It reveals a markedly increased radiopacity of the left maxillary sinus as compared with that of the right normal antrum. A close examination of the structures discloses an unerupted malposed third molar lying above the apex of the adjoining molar, the impacted tooth being surrounded by a cystic area. During the operation for the removal of the cyst and the malposed tooth the antrum was opened and a profuse flow of thick, cheesy pus followed. A radical antrum operation had to be performed, which left a permanent communication with the mouth. (See ¶262-263.)

¶263. Roentgenographic examination of the maxillary sinuses is very helpful in diagnosing this lesion. A roentgenogram of the head taken in an anteroposterior position and revealing an increased radio-



Fig. 284

Roentgenogram revealing the position of the unerupted and malposed third molar which is distinctly shown in Fig. 283.

capacity of the antrum is often pathognomic, and not infrequently a diagnosis of sinusitis can be made even if no clinical signs nor symptoms are present. (See Figs. 283-287.)



Fig. 285

ROENTGENOGRAPHIC APPEARANCE OF NORMAL MAXILLARY SINUSES

Roentgenogram of a head taken in a postero-anterior position. This is of a patient with perfectly normal sinuses and is presented here to show the appearance of normal antra on a roentgenogram.

Both sinuses appear to be of the same degree of density. When a roentgenogram presents an increased radiopacity of the antrum, a pathologic condition of the sinus may be suspected and a further careful examination is indicated. (See ¶263, 268.)

¶264. Irrigation of the maxillary sinus with a warm saline solution very often clears up the condition and is well worth trying.

¶265. Recurring sinus infection indicates that the cause has not



Fig. 286

MAXILLARY SINUSITIS

Roentgenogram of a head taken in a postero-anterior position showing a clouded appearance of the left antrum. Transillumination showed obliteration of the cavity, while puncture of the antrum disclosed the presence of pus.

A dark anthrum on a roentgenogram taken in an anteroposterior position suggests a pathological condition. This, however, should be supplemented by a clinical examination. (See ¶263, 268.)



Fig. 287

MAXILLARY SINUSITIS IN AN EDENTULOUS JAW

Roentgenogram of the head of a patient, 64 years of age, who complained of a "toothache" which was confined to the region of the right maxillary molars. Clinically no abnormality nor pathology was found in that area. The mouth was edentulous. The roentgenogram taken in an anterior-posterior position revealed a marked radiopacity of the right antrum, indicating a pathological condition of the sinus. Operative findings disclosed the presence of polypi and pus, which completely filled the right maxillary antrum. (See ¶263, 268-269.)

been removed. In these cases infected teeth and those with non-vital pulps lying in close proximity to the antrum must be eliminated. The condition of the other adjacent structures and paranasal sinuses also should be thoroughly investigated.

¶266. An antrum with an opening into the mouth resulting from an operation should be protected against the invasion of organisms of the oral cavity, as well as from filth. An iodoform gauze dressing inserted into the opening or placed at the opening and held by a wire attached to the adjoining teeth in a form of an "8" often gives the desired results.



Fig. 288

MOUTH COMMUNICATION WITH THE ANTRUM

Photograph of the mouth of a patient, 63 years old, presenting an opening in the region of a right maxillary molar. Through this opening there is established a communication between the mouth and the antrum. Correction of such a condition requires a plastic operation, which may be very readily performed by the use of mucoperiosteal flaps taken from either the palate or the muco-buccal fold. (See ¶267.)

¶267. The small opening of the antrum communicating with the oral cavity should be closed with a flap taken from either the palate or the alveolar mucosa. The flap must be made as large as possible in order that it may have an adequate blood supply, which prevents sloughing. The incision for making the palatal flap should be carried as far

anteriorly as permissible, and in doing so the cutting of the palatine artery, from which the blood supply comes to the tissue, will be prevented. In coaptating the flaps the edges and surfaces coming in contact should be freed of any epithelial covering and well scarified. The mucoperiosteal flaps ought to be separated from the bone and contra-incisions should be made to compensate the tensions. It is necessary to take a sufficient number of sutures to prevent the separation and opening of the flaps. (See Fig. 288.)

¶268. Transillumination of the maxillary sinuses is a very helpful diagnostic aid and should be resorted to whenever sinus pathology is suspected. (See Figs. 285-287.)

¶269. Maxillary sinusitis gives rise to various symptoms, one of which is toothache, therefore patients complaining of toothache should be advised to have their sinuses examined if there is no apparent dental cause for the pain. (See Fig. 287.)

355 East 149th Street.

(To be continued)

Percy R. Howe Honored by Bates College

Dr. Percy R. Howe, director of research of the Forsyth Dental Infirmary, and Professor of Dental Science at Harvard University, received the honorary degree of Doctor of Laws from Bates College, Maine, on June 19, 1928.

Information for Denture Patients

By Victor H. Sears, D.D.S., New York, N. Y.

EDITOR'S NOTE.—The following is taken from a booklet prepared by Dr. Sears for distribution to his patients. This seems to fill a need, and it is at our request that he has allowed us to publish the information. Any dentist desiring to have this material for presentation to denture patients may have it reprinted as a small sixteen-page booklet by his local printer. Dr. Sears does not insist that his name appear as author.—L. W. D.

FOREWORD

To all who must wear artificial dentures in place of nature's teeth it is hoped that this booklet will be found helpful. It is written for the purpose of answering some of the most common questions which occur to the minds of those who wear or are about to begin wearing artificial dentures. It is designed also to aid the patient in getting the maximum satisfaction from dentures and to establish a clear understanding between patient and operator.

RESTORING LOST PARTS

Perhaps no other human restoration can so satisfactorily replace lost parts, from the standpoint either of appearance or of usefulness, as the restoration of teeth. Frequently the teeth may be replaced with such fidelity to nature that the eye fails to detect the substitution.

On the other hand, nature did not intend that our gums should bear the pressure during mastication, and only under favorable mouth conditions is it possible for the patient to approximate the usefulness of good natural teeth with artificial substitutes. Even then a high degree of skill and the careful use of scientific apparatus are essential to the construction of dentures which will approach the efficiency of good natural teeth.

DIFFERENCE IN MOUTH CONDITIONS

There is as much difference in mouths as there is in faces. For this reason it is not possible for all patients to have equally satisfactory dentures made by the same operator, and therefore no definite procedure can be determined upon without a consideration of the individual mouth conditions.

EXAMINATION

Examination, including x-ray pictures, study casts, facial measurements, outline records and photographs, according to the needs of the case and for the purpose of more accurately planning and carrying out suitable treatment, will be charged for according to the amount of time and the number of records necessary in each individual case.

PRELIMINARY MEASUREMENTS

Frequently study casts are necessary to determine the extent of mouth preparation, position of teeth, etc. *For this reason teeth should not be extracted until the necessary examination has been made by the*

dentist who is to construct the dentures. In cases where it is desired to substitute teeth of the same size, form, hue and arrangement and to retain the characteristic facial expression, it is necessary to make impressions of the teeth before they are removed.

MOUTH PREPARATION

When the teeth are surgically removed and when the ridges are properly prepared, there is less danger of persisting tender areas, the gums heal more quickly, and dentures are more comfortable than is ordinarily the case with simple extractions. Furthermore, there is no pain during the operation, while the tissues are anesthetized, and generally less after-pain than is the case with simple extraction.

Whenever teeth are just "pulled" in the old way and the ridges are left with all the holes and projections of bone, it is sometimes impossible to make dentures which will be either pleasing to the eye or comfortable to wear. If infection is present at the roots of the teeth, there is the further necessity of removing enough of the bone to gain access to the parts involved and to remove all dead or diseased bone. If the reason for extracting teeth is to preserve or restore the patient's health, it is essential to remove the diseased bone as well as to remove the diseased teeth.

WHEN RESTORATION SHOULD BE MADE

Dentures should be placed in the mouth as soon as possible after extraction. There may be a variable amount of shrinkage of the supporting tissues immediately after placing the first dentures, even if the teeth have been out for several months. For this reason dentures should be refitted if the amount of shrinkage is sufficient to cause them to become loose, or new ones should be constructed.

Aside from the fact that one is spared the embarrassment of appearing toothless among his or her social and business associates, immediate restoration has the further advantage of preserving the correct relation of the jaws to each other, retaining the proper relation of the chin to the nose, preserving the tone of the muscles, preventing the cheeks from falling in, and avoiding a possible damaging effect upon the joint just in front of the ear where the lower jaw hinges. It is possible by modern methods to construct dentures before extraction so that they may be worn immediately.

HEARING

It is important that the jaws be placed in their correct position to each other for the preservation of hearing as well as for reasons of efficiency and appearance. There is a possibility that impaired hearing may be caused by going without dentures or by wearing dentures so

constructed as to place the jaw in an abnormal position. In cases where this has occurred, or in cases where malposition of the jaw has caused deafness, it is sometimes possible to improve the hearing by constructing dentures which will establish a correct relation and thus prevent the lower jaw from disturbing the auditory canals.

SELECTION OF TEETH

The best artificial teeth are made of the finest grade of porcelain which science can produce. They are made in a large variety of sizes, forms and hues in which the natural teeth are closely imitated, so that, with modifications, they may be made to harmonize with any type of face.

In order to select teeth which will be most pleasing and in harmony with any particular face, there are three factors which must be taken into consideration—size, form and hue. In determining the most appropriate size and form of the teeth in any given face one must do so in consideration of the very definite relation which should exist between the size and contour of the face, mouth and teeth. Teeth which are too large or too small are more or less disfiguring, whether natural or artificial; likewise, angular teeth in a delicately rounded face or square teeth in a tapering type of face produce disharmony. Some teeth should be lighter at the biting edge than at the gum line, and some teeth should have a greater depth of color than others, although the general effect must be neither too light nor too dark.

Nature sometimes gives a person teeth which are too large or too small or arranged in such a manner as to destroy the harmony between teeth and face, just as she gives some of us noses, eyes and mouths which are either too large or too small or otherwise out of harmony with the rest of the face. It is clear, therefore, that if our object is to produce the most harmonious effect in any case, we must sometimes disregard the type of natural teeth which were present. It is a fact that many persons are better-looking with artificial dentures than they were with their own teeth.

Obviously the principles involved in the selection of teeth as to size, form and hue, as well as to their arrangement for appearance, speech and mastication, require special training and considerable experience to assure their correct application. For this reason it is clear that the operator's judgment should be relied upon in large measure to produce the best results.

TRIAL RESTORATIONS

The teeth are arranged on temporary plates and tried in the mouth. At this time the patient and operator should agree on the size, form, hue, and arrangement of the teeth. If the patient has relatives or

friends whom he may wish to pass judgment upon the appearance of the case, they should be present when the trial dentures are tested in the patient's mouth. At this time it is possible to make changes if desired, but any changes made after the dentures are completed involve unnecessary trouble and additional expense to the patient.

LEARNING TO USE FIRST DENTURES

Artificial teeth are not used in the same way as natural ones. If a person is about to wear artificial dentures for the first time, it is difficult for him to gain any clear conception of the experiences in store for him. One should not expect to use comfortably the artificial substitutes for natural teeth until nature has had sufficient time to adapt herself to the new conditions. Artificial dentures always feel big and cumbersome at first and the tissues seem to rebel at their presence, but gradually the substitutes become more comfortable and more useful. This period of learning to tolerate and use dentures is something which every one must pass through in order to master the art of wearing them. The length of time varies according to the patient's individual mouth conditions, general state of health, age, and ability to adapt himself to new conditions.

Most people learn to eat very well with artificial dentures, but no one should expect artificial teeth to be fully as serviceable as good natural ones.

One is justified in wearing artificial dentures purely for the sake of appearance in cases where mouth conditions may be such that dentures cannot be made very serviceable in mastication. Glass eyes are worn without any thought of their utility, and while dentures should in all cases be more serviceable than glass eyes, a person should not expect great efficiency immediately upon replacing natural teeth with artificial ones.

In eating it will be found that thorough mastication can be more readily accomplished at first if the food is taken in small portions and the chewing slowly done on both sides at the same time. In biting off food there will be much less danger of dislodging the dentures if inward pressure is made on the front teeth instead of an outward pull, as one usually makes with the natural teeth.

During the first week or ten days one should wear the dentures day and night, after which time they may be left out at night unless the patient is otherwise instructed.

All mouths are not alike in their reaction to artificial teeth, and the judgment of the dentist should be relied on in each case.

DIET FOR BEGINNERS

A person should not attempt to chew any but the softest foods until

the tissues or gums have become sufficiently accustomed to pressure of the dentures. Bread is hard to chew. The following foods are recommended:

Well-cooked cereals, such as corn meal, cream of wheat and rice.

Eggs, boiled, poached or scrambled.

Stewed fruits, such as peaches, apples and pears.

Fresh fruits, such as bananas, peaches and oranges cut into small pieces.

Soups, containing rice, spaghetti and vegetables.

Cooked vegetables, such as string beans, potatoes, spinach, asparagus tips and tomatoes.

Uncooked vegetables, such as sliced tomatoes, finely cut lettuce, parsley and watercress.

Fish, broiled, baked or boiled.

Cottage cheese.

Milk toast, with butter.

Desserts, such as custard, ice cream and rice pudding.

One may drink sweet milk, buttermilk, malted milk, egg-nog and orange juice.

There is a tendency on the part of many patients to show themselves and others that they can chew as well with artificial dentures as they could with their own teeth. This may soon lead to sore mouth or wasting away of the ridges, or both. The wearer of artificial dentures should reconcile himself to the habit of avoiding all foods that require vigorous chewing. This is not always convenient, but it will safeguard the supporting value of the ridges and make the dentures serviceable for a greater number of years. One can be just as well nourished with foods that do not require much mouth-grinding as with foods that overtax the supporting ridges. This does not mean that food should be bolted. There is just as much need of mixing the food with the mouth secretions as ever, even if the partially prepared foods are more easily swallowed.

CARE OF DENTURES

Artificial teeth are made of porcelain and should be handled with great care. They should be brushed after each meal and before retiring at night. A special plate brush or stiff handbrush should be used, with baking soda as a cleansing agent. One should never use coarse scrubbing powders or hot water. If there should be any noticeable odor to the dentures, let them stand for a few hours in a glass of water to which has been added a teaspoonful of tri-chlor.

In case of breakage it is usually possible to repair artificial dentures.

LENGTH OF SERVICE

Once made, dentures do not change their shape, but there may be a shrinkage of the supporting ridges, and in time dentures which fit when first made become loose. This is not necessarily due to faulty construction, but is a common result of nature's work. When dentures become loose, they may be refitted at less expense than new ones can be constructed, although many patients prefer to have new ones made and keep the old ones for emergency. The length of time which they will continue to fit depends upon the rapidity of absorption, the absorption being more rapid with the first dentures than with subsequent ones.

The most important single factor in preserving the integrity of the supporting ridges as well as in securing comfortable efficiency is the factor technically known as *balanced occlusion*. This means that the chewing teeth are so arranged and ground that they make simultaneous contact on both sides in any of the many habitual chewing positions that the lower jaw may assume.

All artificial dentures should be *balanced*.

If in any of these positions of the lower jaw (either in a forward, right, left or central position) there is some tooth that strikes before the others, the dentures are *unbalanced*; and if they are used in that position, destruction of the supporting ridges and looseness of the dentures may result.

FEES AND TERMS

The cost of dentures necessarily varies according to varying mouth conditions and according to the quality of denture service which the patient desires.

Fees are based upon the kind and amount of service agreed upon, as well as the refinements embodied in construction. All fees are quoted upon the cash basis, one-half of the amount being due and payable when the work is begun and the balance when the dentures are delivered.

ADJUSTMENTS

No assurance can be made against difficulties arising from any change in mouth conditions, but adjustments such as relieving tender areas will be done without charge. Repairing and refitting will be done at the patient's expense.

Careful inspection of the mouth and dentures at intervals, with adjustments when indicated, is of value in safeguarding the future health and supporting values of the jaws. There will be no charge for these inspections.

Delivery of the dentures does not terminate our interest in the case and the patient should feel free to return at any time (by appointment) for examination in case of difficulty.

What Is Wrong With Dentistry In Oregon?

By John W. Henderson, Portland, Oregon

(The original from which this revised and abridged article was taken appeared in the *Northwest Journal of Dentistry*. We feel that Mr. Henderson has proposed only a partial solution of the difficulty. An increased knowledge of better dentistry will help a part of the dentists to raise their fees, but the proportion of dentists to population in Oregon is too large and the law of supply and demand is a strong factor. Some of the men will have to give up dentistry or move to some more promising field.—Editors.)

Before going into the subject allotted to me, permit me to say that there are two kinds of criticism. There is criticism that lays bare to the daylight the unfortunate conditions, the faults and the many shortcomings. But nothing is gained if we stop there. I will attempt, in as kindly a manner as possible, to point out the difficulties and then try to suggest a remedy that will overcome these unfortunate conditions.

First, let us get down to a frank, sane basis of looking at things in their true light. The fact that I happen to be a dental supply man should not cause me to stand here and hand out pleasant platitudes or sidestep the issue you have asked me to handle so candidly.

In the first place, Oregon is suffering very severely from the unfortunate condition of overcrowding in the dental profession. I will show you that Oregon leads all the other states in the number of dentists to the size of the population. The figures are taken from the 1926 report of the Carnegie Foundation by Dr. Gies. Oregon has one dentist to each 966 population, which is the largest ratio in the country.

Portland has the high ratio of one dentist to 544 population. If you stop to think that at least 20% of the people are poor and can secure dentistry only in free clinics, you have the condition of one dentist to less than 500 population. No person sizing up the difficulties with which you are face to face as a profession can possibly overlook the very awkward fact that Oregon is supplied with a surplus of dentists.

This condition can mean only one thing. Oregon today is suffering from an overcompetitive condition. The result has been that fees are very low, absurdly so in many parts of the state. In towns where there is room for from four to six dentists with a chance for an ample livelihood for all, ten or more crowd into the town and the outcome is only too well known to all of us. Hardly a week passes but one or two, sometimes more, good, honest, and sincere young men come to us for advice and help. They are often thoroughly discouraged and at their wits' end, not to know how to make a fortune out of dentistry but how to make ends meet. They have a desire, and it is within their rights, to further their family standard of living and to educate their children

in keeping with "professional life." They are imbued with high ideals in dentistry. In instance after instance they want to go ahead. They have the ability but seemingly not the opportunity to secure in the state of Oregon the kind of practice that they could enjoy in some place where the crowded condition was not so accentuated.

I will admit that there are misfits in the dental profession as well as in all walks of life. But if my twenty odd years of daily touch with dentists means anything, I can but compare you as a body with other men in your profession and tell you in a kindly way that three-fourths of you are lacking in earning power to a decided degree. I base my statement on the fact that you lack "buying power" in dental supplies. I would say that this means also a lack of income, because the fees taken as a whole in Portland or in most parts of Oregon do not compare favorably with those in Washington on the north or with California on the south.

I think I have spoken candidly and frankly, and if I were to stop here it would be a dark picture indeed, but the very best and most prosperous days ever enjoyed by the dental profession are starting right now. What that message means to you personally depends on your mental attitude toward dental practice-building in your own office.

One of the troubles with dentistry in Oregon is the lack in scores of cases of a plan for personal advancement in professional life. I have had the pleasure of going into every section of this state in the last year with a brief course in dental economics. Frequently I have been asked to survey certain practices in a town. The dentists know that something is wrong. They are working hard, but their incomes are low. They complain about fees and poor collections. But in almost every instance the dentist has unconsciously nursed himself into the rut of self-contentment. He keeps up a steady pace, never less than a certain figure each month and rarely over a certain figure in cash receipts. His own big job seems to be a case of getting Mrs. Brown out of the chair so that Mrs. Smith can enter it. The commonplace humdrum of practice lulls the dentist into a consistent jog-trot. That type of existence in dentistry is all wrong and rarely leads to a satisfying income for the dentist or really high-grade, last-minute dentistry for the patient.

How are we to change the condition? I am firmly convinced that the best plan to remedy the difficulties confronting the Oregon dentists today is a live, keen organization—a state-wide dental-club movement. But let me give a warning right here. It must not be a grand "hurrah", but a well organized, well planned-out movement on at least a three-year basis.

One serious fault in Oregon seems to be that the "Heidbrinks, Hollenbecks, Halls, and Tinkers" in this state have not been given the limelight they should receive, both for their own good and yours. I am

repeatedly told, and I know it to be true, that you have very high-grade men in dentistry in Oregon, but their ability is being hidden to the permanent loss to the profession. If these men would be willing to visit study clubs, you have a right to pay them for their time just as if they were from New York, Chicago or any other place.

I do not feel that you can settle your state-wide troubles until you as individuals solve in your own minds the difficulties with which you are face to face. It is not my wish nor desire to commercialize dentistry. I have no desire to turn you out as dollar-grabbers, but I do say in all seriousness that this matter of dental fees in Portland and all over Oregon needs and must have your deepest and most careful consideration. You are short on "ten-thousand-dollar men" in Portland, but never lose sight of the one great truth that better fees must also mean better dentistry. One cannot go on permanently without the other, but I feel sure that you have in the state-wide study-club movement a remedy of a lot of your present indifference.

Last summer you had a State Society Dental Meeting in Portland. Your state officials worked hard and gave you a very fine program. Within a radius of 200 miles of the convention hall there were over 500 ethical dentists, but the attendance amounted to a little over 200 out of over 800 ethical dentists in the state.

I am afraid that until you radically awaken the rank and file of the profession to the possibilities of their own life's calling, you will not get much further than you are right now.



A General Consideration of the Problem of Vincent's Infection*

By Leroy M. S. Miner, M.D., D.M.D., Boston, Massachusetts

A SUMMARY

Vincent's infection is one of the greatest problems confronting dentistry today. Up to 1915 it was practically unknown, but at the present time it is almost universal. It is both epidemic and endemic and respects no class nor community. No amount of care of the teeth will prevent its occurrence.

The acute form is spectacular and highly contagious, and when a case has once been seen it can never be mistaken for anything else. While it is frequently very painful and the signs and symptoms are alarming, it responds readily to treatment and may be brought quickly under control, as a general rule.

The chronic form is more difficult to diagnose and combat. This form may never have been through the acute stage, and without doubt many chronic cases have been diagnosed as periodontoclasia. The disease is not necessarily confined to the oral cavity, but it is there that it occurs most frequently.

The etiology is still uncertain. The bacillus fusiformis and the spirochaete refringens are usually present, but since these are not pathogenic for laboratory animals, it is hard to prove that they are the causative agents.

The great need is to educate the public in regard to the prevalence and contagiousness of this disease. Some men have advocated that it be made a reportable disease, but, while the essayist does not believe that this is necessary at present, the rapid increase and wide distribution of Vincent's infection is a matter of grave concern.

Waxes and Wax Patterns for Cast Gold Inlays**

By Roscoe H. Volland, D.D.S., Iowa City, Iowa

A SUMMARY

All waxes have three characteristics: (1) they expand when heated, (2) they contract when cooled, and (3) they are elastic to a certain degree. This elasticity may be partially locked by chilling, but there is always a tendency for the wax to return to its original form, and for

* Given before the Massachusetts Dental Society, Boston, Mass., May 8, 1928.

** Given at the Annual Meeting of the Dental Society of the State of New York, Syracuse, N. Y., May 17, 1928.

this reason a pattern should be invested as soon as possible. The reaction, however, is never so strong as the action.

The essayist uses the direct method almost exclusively, and when the cavity is prepared he heats a cone of wax, drawing it out to a point. This point enters the cavity first and, under pressure, is squeezed out and replaced by cooler wax. Pressure is continued and the patient bites on the wax, forcing it still further in and registering the high points of the opposite teeth. Water at about 110° F. is used to wash out the mouth, and this keeps the wax in a plastic condition at first, but as the water cools the final washings are at room temperature. The wax is worked until the molecules come to rest and there is no tendency for the wax to spring back or crawl when pressure is released.

The wax is not carved nor burnished but is rubbed, and consequently no edged instrument is used. In a compound cavity in a molar or a bicuspid the occlusal surface is first reduced to the required form with a burnisher. The contact point is freed by passing through it No. A sewing silk held taut and pressed against the approximating tooth. The approximal surface of the pattern is formed by the use of a sickle-shaped explorer tine and then finished by using a strip made from tracing cloth.

In proximal cavities in the anterior teeth the wax is forced in from the lingual and the excess is left on the labial until the very last. This steadies the pattern and makes the manipulation easier.

Many claim that the discrepancies in cast gold inlays are due to the shrinkage of the gold. The essayist does not believe that this is so, since the shrinkage of 22-K gold is very small. Most of the shrinkage occurs during the handling of the wax, and if this can be controlled, very little difficulty will be encountered.



Character—The Corner-Stone of Success

By Carleton Cleveland, D.D.S., Highland Park, Illinois

More and more is the world beginning to take cognizance of the fact that character plays a very essential part in the accomplishment of any great achievement. Business men are learning that without the elements of good character no man nor business can be truly successful. Likewise a nation, to be truly great, must have high ideals and strive to realize these ideals.

History speaks with no uncertain voice, telling of man's responsibility for his own life and conduct and of the consequences of yielding to temptation.

As we look about us, contemplating the matter, we quickly realize that the practice of dentistry offers infinite opportunities for the development and expression of character. If nothing else, there is always the daily opportunity of serving suffering humanity in a kindly, considerate and loving manner. The gentle touch, the soothing voice, and the steady, skillful hand can do much to alleviate agony and physical pain. A willingness to serve and an ability to meet and conquer unexpected conditions are two outstanding features generally found in well-developed characters. These two characteristics may well be used as a starting-point in cultivating good character. Other qualities always appreciated by those with whom we come in contact are honesty, sincerity, genuineness, cheerfulness, courtesy, kindness of heart, enthusiasm for one's work, and efficiency in performing a given task.

Take for example the career of C. N. Johnson, one of America's foremost dentists. Is it not his friendly and lovable disposition, his willing and generous helpfulness, his earnestness in using his very best skill in the doing of each individual piece of work, his lofty ideals—yes, his character—that have so endeared him to all who have known him and learned to love him? Yes, a hundred times, yes! It is that unseen something which leaves upon those who meet him a deep impression of his integrity and sincerity of purpose. His life will be accounted successful, regardless of whether or not he may have gained wealth in the pursuit of his life's work.

Or, to consider one who has passed from this plane of existence but left indelibly the mark of that existence, we can think of none greater than the late G. V. Black—a man of lofty ideals, irreproachable character, and an indefatigable student—veritably the Father of Modern Dentistry. Research activities, particularly in the fields of dental bacteriology and pathology, stand today exactly where Greene Vardiman Black left them.

Character, however, is not a thing to be observed with the physical

eye. It is rather a force or urge to do that which makes for betterment of life generally and for the happiness of those with whom we come in contact. Character, it might be said, makes people like us. Lack of character, on the other hand, tends to cause people to dislike us, to shrink from us, even to shun our company altogether.

Character, nevertheless, is not an elusive thing. It is very real, yet it can be recognized and felt with our mental faculties only, but it makes itself felt very definitely.

It goes without saying that one's individual character has its bearing on one's life and work. A frivolous, careless mental attitude can hardly be said to be suited to the performance of serious, exacting tasks. Not that one should be of sad countenance; quite the opposite, since joy and cheerfulness are a part of any well-rounded character. Any task entered into with cheerfulness and interest, provided a reasonable degree of knowledge and skill also is present, will undoubtedly be well performed. Interest added to geniality, plus a goodly portion of application and patience, is what pushes any undertaking through to success.

If then, as stated above, character is the thing that makes people like us, is it not logical to conclude that patients will be attracted to us? And with plenty of patients who can appreciate our strength of character and the skill and interest we put into our work, will not our professional life be a success? And so we come back to our starting-point and reach the conclusion that back of every great achievement and every good and useful life are qualities of character that made that great achievement possible and the useful life an accomplished fact.

708 West Park Avenue.



A Case of Replantation

By W. J. Geiger, D.D.S., Rockville Centre, N. Y.

This case presented on April 28, 1924.

HISTORY

A girl, 14 years old, had fallen from a swing and dislodged the upper right central. The left central was fractured at the mesio-incisal angle. The patient had the right central with her.

TREATMENT

I irrigated the socket of the right central and packed it temporarily with iodoform gauze. The apical third of the right central was cut off with burs and polished. I opened into the pulp chamber through the lingual surface and removed the pulp and carried out the regular procedure of root-canal filling.

I sterilized the tooth in a solution of mercuric bichloride and thoroughly dried it. Under a local anesthetic the tooth was replaced in the socket, forced into occlusion, and ligated to the right lateral and left central.



Fig. 1

Radiogram showing the tooth splinted in place.

A splint was then made consisting of 22K-gold bands and fitted to the teeth (Fig. 1), and an impression was taken with the bands in position. A model was poured and the bands soldered together and, after the splint was cleaned and polished, it was cemented in the mouth. The splint was left on the teeth for three months. The recovery was uneventful.

The radiogram in Fig. 2, taken on August 31, 1925, shows the tooth to be still in good condition.



Fig. 2

Radiogram of the case one year later.

I have seen the case within the last year and the tooth is still very firm and has never been uncomfortable.

1 North Village Avenue.



Togo's "Discursions"

Mr. Editor of Dental Magazine Showing Considerable Tenacity of Purpose.

Hon. Sir:

Recent personal disasters and repairs of Oriental chewing equipment cause thought reverberations as follows:

In order to render most considerate service to all fellow members of Hon. Human Family each D.D.S. should personally undergo all dental operations from Orthodontia to Full Denture Prosthesis at least once annually in each 12 months if possible. If original supply of teeth becomes inadequate for strenuous program as mentioned, considerable enlightenment may be gathered in spite of certain necessary omission in program. Starting point of discussion may be made from original statement that mouths of all adults should contain as nearly complete equipment of teeth as possible. Absence of said tooth equipment either partial or complete causes assorted annoyances and discomforts which because of frequent occurrence are too lightly regarded even by those men trained in matters of proper replacement.

Absence of proper exercise in juggling food bolus results in abnormal feeling and condition of all mucous membranes adjoining tooth vacancies—said feeling being noticeable on tongue as well as on cheek, lips, palate. Disturbances of occlusion gradually increase and become annoying, tending to produce irregular chewing habits as well as hastening rapid changes in facial expression. When only one or two teeth are missing, efforts at chewing produce occasional injuries to tissues in edentulous space and this timidity in use and further loss of function continue to progress.

Jaws, Mr. Editor, were originally made for chewing—even Women had probably chewed for several hundred thousand years before learning how to impose added burden of conversation on primordial set of muscles originally designed for mastication only. Therefore—function of proper chewing must be maintained if condition of mouth health is to be perpetual and continuous!

Personal loss of one complete lower 1st molar caused apparently only slight impairment of chewing ability during years of early adult manhood. Recent collapse of adjoining inlay restoration in Hon. 2nd Molar caused entire suspension of chewing hostilities on affected side. Thank you!—Immediately all symptoms and discomforts noted in opening stanzas of present discussion began inharmonious development.

Installation of sanitary but entirely stationary fixed bridge resulted in speedy return to normal function of all affected parts and tissues in

addition to producing further joy of grateful comfort on account of completely restored occlusion.

Personal experience as here set down seems to warrant several observations which are offered to regular subscribers of D.D.S. standing for careful perusal and digestion.

Loss of any tooth except dishonorable 3rd Molar is calamity of varying dimension which should not be too lightly regarded.

Whenever possible without too great injury to adjoining teeth such losses should be restored promptly.

While circumstances undoubtedly continue to govern cases in Dentistry as well as elsewhere, nevertheless one fixed bridge in mouth of Hon. Patient continues to be worth more than several partial plates or removable bridges in bureau drawer or medicine cabinet!

Gold shell crowns while still recognized as members of Good Society in Hon. Field of Dental Service are becoming almost as extinct as recent American Bison!

For attachment to posterior teeth, $\frac{3}{4}$ -castings made to fit accurately by either direct or indirect method have no superior, and when cast in hard gold afford ample anchorage and entire immunity from gum irritation and almost no danger of pulp involvement. Attachment to vital anterior teeth can be made by any one of several methods. The so-called "Thimble Crown" has many advantages but cannot be employed effectively on very short teeth or in cases where occlusal strains are of pronounced intensity.

Modern methods practically never call for removal or serious impairment of pulps in teeth used for anchorage.

Each problem of tooth replacement is highly individual and should be undertaken with all life factors of each individual Patient fully included in mental process involving important matter of methods to be employed.

Matters involved in producing all necessary forms of inlays, $\frac{3}{4}$ -crowns, clasps, castings and other assorted etc. required by high grade results should receive careful study by all individual operators so that said results can be turned out in shortest possible amount of operating time—all savings of time effected should be shared with Hon. Patient who, being in most cases of Considerable Intelligence, will communicate glad tidings of Good Dentistry at Reasonable Cost Prices to Mr. & Mrs. Tom, Dick and Harry at all Bridge Parties and other necessary Broadcasting Stations which are conducted without profit for casual dissemination of Useful Information.

Hoping you are the same,

Yours considerably,

Togo.

Educating the Masses

By A Country Dentist

The editorial comment prefacing *What's the Matter With Dentistry?* in the July issue of THE DENTAL DIGEST was exactly the type of comment that the author expected to receive from the editor. It was the only comment that could have been made, because he realized that the conditions as given in that article were true and were true of many country districts.

"This dentist has a splendid opportunity to educate a community," etc., he writes in his comment. Yes, it is a wonderful opportunity, and he has been working at it for ten years and, in the meantime, his pocketbook has been very flat. But to educate the masses—that is a herculean task which many a dentist dares not undertake, and very often he does something quite different.

Some time ago I attended a meeting of possibly two hundred dentists. My wife, who assists me in the office and with the bookkeeping, was with me, and we admired the many fine appliances priced from 50c to \$1800. We noted how many of those articles we might use conveniently in our office, but we bought only a new set of scalers, not because we could not use many of those lovely new things, but because the margin between our actual income from the office and the actual expense of running the office was too small.

All at once I noticed that most of the men were passing by the various booths instead of placing orders. I noticed also that those taking the orders looked more spick and span than those passing by.

"Mom, look at the bunch! Looks kind of seedy to me," I whispered to my wife.

She looked about the show room. "Oh, I don't know! Some of them look pretty good. Dad, that one in brown there—he looks prosperous," she whispered back.

"Where? Oh yes, I see him. That's a supply house salesman," I answered quietly.

"Well, look, there's Dr. Smith. He looks very nice."

"So he does, but he told me the other day that he was going to sell enough of his leghorn thoroughbreds to get a few extras."

We both look around again.

"Oh Dad, there's Dr. Jones. He looks just—just heavenly! Look at him! See, he's coming here."

"Well, well, folks, good to see you. The Missus is around somewhere," greeted the doctor, as he shook hands heartily.

"How come the glad rags, Doctor?" I wanted to know as we thumped each other on the back.

"Sh! It's a dark, dark secret," whispered Dr. Jones solemnly.

"Moonsh——," I began.

"Nothing of the sort! You know, I sold out and rented a section of land in the eastern part of the state. All rocks and sagebrush—nothing will grow there. I bought a bunch of goats, went shares with a fellow and, boy, it beats dentistry all hollow. Never had a suit like this one in my life. Feel it. Nothing better on the market. No hand-me-down, either!"

"What are you doing here then? Going to buy teeth for the goats?" I joked, just a bit envious of his evident prosperity.

"No, just got hungry for a look at you down-in-the-mouth-looking fellows. The Missus wanted to shop for the children, so we came."

This, my dear editor, is the truth—not an imaginary case. I know the man and know him well and have been in his office. He is a hard-working, capable man and lives just twelve miles from my home.

Why should a man who can get out of dentistry into some other business and make good right from the beginning waste his time educating the masses?

That is what a good many of us country men are up against. We must either get into something more lucrative or have a semi-gentleman's profession with our white collars frayed and our fingernails grubby from taking care of our own cars.

We are like the men who are trying to lift themselves up by their bootstraps. We tug and pull and all we do is pull our boots out of shape, because we do not get down to the principle of the dental structure. We fight symptoms instead of the tangible things which are holding us back—ignorance and lack of intelligent cooperation.

You say, "Educate a community," but how can we do anything when, as a group, we ourselves are suffering from professional dry-rot? We must first work out a plan whereby we can change the conditions of dentistry as a whole, and then we as individuals can profit, because it is the group work that counts.

Suppose I were to take my time which should be used to make a living for my family and devote it to the teaching of my community. In the first place, I am a practical dentist with a fair knowledge of dentistry in all of its various branches, but all I know of dentistry is in technical terms unfamiliar to the layman. In order to explain and to educate, I should have to reeducate myself, and I have neither the time nor the inclination to do this. I should rather get a flock of goats (or is it herd of goats?), as did my neighbor.

What I should suggest is this—instead of discussing ways and means as to the nicety of the fitting of a porcelain inlay, discuss ways and means as to the stabilizing of the profession by legislative measures. If ten men, educated to bring the necessary knowledge to the masses, were appointed in each state, in five years our people would be educated

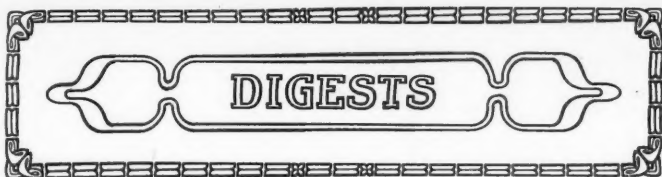
to the necessity of enlightened dentistry, but these ten men should be paid by the government and should be mature men with both a theoretical and a practical knowledge of the teeth and their relation to health. That is one thing our dental societies can work for and, after that, dentistry will be on a higher plane and the dentist will receive fair remuneration for his services.

I have taken a number of special cases, people who have wanted to know the truth about modern dentistry. In explaining to them I have thought out a number of practical outlines regarding these things, but I cannot afford to give my time for nothing, so I have to limit these talks. However, if I were paid for it, I know that I could learn to explain these things to my people and to other people and give them a clear picture of teeth and health.

But, as I have said before, individual effort is so slow, while so much might be accomplished by group effort through legislation. I will admit that the masses must be educated to the value of the x-ray and to the dangers that may accompany improperly treated pulpless teeth, but somebody has to pay for this educational program, as my family has to live. Who is going to pay for it?

On the other hand, is it worth while? When a man can get a goat ranch and profit thereby to such an extent as did my friend, does it pay to keep on in dentistry? I love my wife, my children and the small grandchildren, and if a goat ranch will bring them the things they need for their comfort and happiness, then why should I stay in my white collar, trying to educate the community?





RELATION OF BACILLUS ACIDOPHILUS TO DENTAL CARIES

By RUSSELL W. BUNTING, D.D.S., GAIL NICKERSON, M.S.,
DOROTHY G. HARD, D.D.S., and MARY CROWLEY, A.B.

"1. In a survey of 1335 children, it was found that the presence or absence of *B. Acidophilus* in the mouth is directly and definitely related to the activity of dental caries.

"2. In repeated examinations, a spontaneous cessation of caries was noted coincident with the disappearance of *B. Acidophilus* from the mouth.

"3. Certain cases in which *B. Acidophilus* was found to be present in mouths apparently free from dental caries at a later examination had developed new lesions of active caries.

"4. The presence or absence of *B. Acidophilus* in the mouth constitutes a more accurate means of diagnosing the activity of dental caries than any clinical estimation can afford.

"5. It was noted that the degree of activity of *B. Acidophilus* and dental caries in the mouth was distinctly related to the type of diet and the form of dental attention which was afforded."

At the present time it is impossible for the average dentist to determine the *B. Acidophilus* content of the mouth, since skilled laboratory workers are required.—*The Journal of the American Dental Association*, July, 1928.

PROGRESS IN OPERATIVE DENTISTRY IN RECENT YEARS

By ARTHUR D. BLACK, M.D., D.D.S.

The author deplores the increased use of silicate cements and advocates the use of gold foil in as many proximal cavities in the anterior teeth as possible. He urges that those who use silicates extensively give a history of the teeth in which this material is used, giving the age of the patient and the dates on which the fillings had to be renewed together with a record of the death of the pulps and the placing of porcelain jacket crowns.

A table is given which denotes the author's preference of material for the various types of cavities.

CLASSIFICATION OF CAVITIES

Bicuspid and Molars

Small and medium-sized pit and fissure.	1. Gold foil 2. Amalgam. 3. Gold inlay.
Large pit and fissure.	1. Gold inlay. 2. Amalgam, or porcelain inlay.
Small mesioclusal and some distoclusal of easy access.	1. Gold foil. 2. Gold inlay. 3. Amalgam.
Small distoclusal of difficult access and large mesioclusal or distoclusal.	1. Gold inlay. 2. Amalgam. 3. Porcelain inlay.
Gingival third.	1. Gold foil. 2. Amalgam. 3. Gold inlay.

Incisors and Cuspids

Small proximal.	1. Gold foil.
Large proximal.	1. Porcelain inlay. 2. Gold foil. 3. Gold inlay.
Proximo-incisal.	1. Porcelain inlay. 2. Gold inlay. 3. Gold foil.
Gingival third.	1. Porcelain inlay. 2. Gold foil.

Two things must always be taken into consideration—the age of the patient and the degree of susceptibility to caries.—*The Journal of the American Dental Association*, July, 1928.

LOCAL ANESTHESIA

By DR. EDWARD REITER

The use of procain will in most instances abolish all pain connected with various operative procedures.

Comparatively few operators use local anesthetics in general practice because of postanesthetic pain. The anesthetic is often blamed for this when it is really produced by the insertion of the needle into the tissues.

A 27-gauge, short-beveled needle can be inserted into the mucobuccal fold without causing pain. It is unnecessary to inject into dense fibrous gum tissue to secure anesthesia, and if this is avoided we have not interfered with the circulation or with the vitality of the gum.

Only one insertion of the needle is necessary to block off any part of the outer nerve loop of the superior dental plexus, and since there is very little resistance, no force is necessary to expel the anesthetic fluid. This reduces the manipulation of vital tissues, which in turn decreases the injury and lessens the postoperative pain.—*Dental Items of Interest, July, 1928.*

LEUKOPLAKIA ORIS—A CLINICAL STUDY

By HERMANN PRINZ, D.D.S., M.D.

Up till recently the etiology of this disease was stated as being unknown, but at present it can be established positively in the majority of cases. It does not appear as a rule until past middle age, and while it is more prevalent in men than in women, this is due to other conditions than sex alone. The negro seems to be relatively immune.

The use of tobacco is the most common predisposing cause, and the severity of the initial attack depends largely on the manner of its use. Smoking is a dry distillation, which liberates heat, ammonia compounds, nicotin and other irritating substances. Cigarettes are least injurious, followed by cigars, while pipe-smoking is the most dangerous, especially when the short clay or wooden pipe is used. Since women, when they smoke, use chiefly cigarettes, this accounts for the infrequent incidence of leukoplakia in that sex. Among negro women who smoke clay pipes the death rate from cancer of the lip is high.

Leukoplakia is also caused by decayed, malposed or badly shaped teeth, accumulated salivary calculus or poorly constructed artificial substitutes.

Chronic alcoholics, especially when they are excessive users of tobacco, sometimes develop this disease, and some cases have been observed in Italian immigrants who drank a cheap red wine in which there was tannic acid.

At times occupation plays a part in the etiology, and glass-blowers, tea-and coffee-tasters, and mechanics who hold tacks, etc., in their mouths often develop leukoplakia. While syphilis may predispose a

patient to this disease, it is not the cause and its presence is only accidental.

Summing up, it may be said that leukoplakia is caused by a chronic local irritation of the mucous membrane whose resistance has been previously lowered. The quantity of the irritation is more important than the quality and the lowered resistance is due generally to premature senescence, disease or hereditary taints.—*The Dental Cosmos*, July, 1928.

TEACHING ANESTHESIA IN SPECIALTIES

By B. H. HARMS, D.D.S.

The course of instruction is all too short in dental schools, and consequently when the student graduates he is far from proficient in this subject. And the student of today is the teacher of tomorrow. Physiology is the basis of anesthesia, and three other sciences are necessary: physics, chemistry and anatomy.

As a rule, when a general anesthetic is used in the clinic, the student takes the part of the spectator, and not only does he fail to learn from actual experience, but it is rarely that he sees an accident or an emergency. Consequently when one arises in his own office, he is at a loss as to what to do.

The best method of teaching nitrous oxid-oxygen anesthesia is with small groups of postgraduate students. A team is made up of three men who rotate in the capacity of surgeon, anesthetist and assistant. In this way the value of team-work is emphasized.

When these men return to their offices, they know how things should be done and they start in to train teams of their own.—*The American Dental Surgeon*, July, 1928.

FUNDAMENTALS ESSENTIAL IN FIXED AND REMOVABLE RESTORATIONS

By BARTON C. ADDIE, D.D.S.

"A survey of the situation as seen today in the average patient's mouth leads one to the following conclusions:

"1. That errors of judgment are too frequently observed and point to a change in our educational policy.

"2. That faulty root and tooth preparations, and in consequence poor form and adaptation of attachments, exhibit a weakness and a lack of comprehension on the part of the student. It demonstrates a de-

iciency in applied training as applied to fundamental essentials, both physical and physiologic, and that more time should be assigned to this teaching.

"3. That there is need for standardization in prosthetic training, and that 'isms' and so-called systems should, as a class, be condemned.

"4. That the construction of one or two practical cases of bridge-work (carried to completion) consumes too much of the student's time and does not compensate him for the effort.

"5. That a place exists for the laboratory technician in both dental schools and practice, and it is our duty to further his advancement along scientific lines.

"6. That most errors in construction and application of both crowns and bridges are in direct proportion to the disregard of the physiological requirements of tissue elements associated with the teeth.

"7. That revision of state board requirements may be necessary to harmonize with the modern teaching and evolutionary progress.

"8. That attention to minute detail is the fundamental essential for success."—*The Dental Cosmos*, July, 1928.



PRACTICAL HINTS

This Department is now being conducted from the office of The Dental Digest. To avoid unnecessary delay, Hints, Questions and Answers should be addressed to Editor Practical Hints, The Dental Digest, 220 West 42d Street, New York, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

VINCENT'S DISEASE.—I notice in *Practical Hints* that some of the dentists are having difficulty in treating stubborn cases of Vincent's disease. Let me suggest that they try using a paste made from pure copper sulphate (crystals or powder). It will give wonderful results in the most severe cases. Apply directly to the gums with a pledget of cotton in foil carriers, hold in mouth for two or three minutes, then wash out. Do this every day for a week, and you will be surprised at the results obtained. It will pucker the mouth, but it will get results, and that is the object for which we are all striving.

J. J. CORNETT.

Editor, Practical Hints:

I wonder if you would be kind enough to give me some information as to the care of a patient's upper left central. He received a blow there some years ago. Now it is loose and some suppuration seems to be taking place.

Is there any way to clear this up without extracting the tooth?

C. A. B.

ANSWER.—Doubtless the blow caused the death of the pulp, and this is the cause of the suppuration. Open up the tooth, drain it, treat it and, when it is in the proper condition, fill it. This may take some time, but with care the final result ought to be satisfactory.

Editor, Practical Hints:

I am enclosing a model and an x-ray. I would thank you very

much if you would offer counsel as to the extraction of the upper canine which is out of line. You will note that the upper lateral is lingual to the lower.

Which of the two teeth do you think should be removed?

The patient is a girl of seventeen years of age. The mouth is otherwise in excellent condition.

Personally I believe that it would be best to remove the canine, but I fail to see how the lateral will move posteriorly, due to malocclusion.

J. S. B.

ANSWER.—From the model you sent it is rather hard to give any advice. However, we would recommend extraction only when everything else has failed. An orthodontist might bring about a satisfactory occlusion without sacrifice of a tooth.

Editor, Practical Hints:

Can you tell me how to soften (anneal) shot lead and also sheet tin after being put through the rolls?

J. C. G.

ANSWER.—Rolling pure lead or tin will not harden them appreciably. Possibly you are handling an alloy. Our Research Department does not see how pure lead or tin could be softened except by using another metal with it. We advise your writing to the Bureau of Standards, Washington, D. C.

Editor, Practical Hints:

I have a case of a woman, about 44 years of age, who partially lost her sight, and after numerous examinations and consultations it was thought desirable to remove an impacted lower third molar.

I made two light injections around the tooth and removed it easily, but later she complained of numbness and an annoying feeling as far as the median line on that side of her face.

I treated all of the teeth in that area and found them very slow to respond to the electric current.

I have extracted both bicuspid and three molars from that jaw, and on breaking them open I found the nerves alive but bloodshot throughout. One contained a pulp-stone.

The lady is still complaining of the three teeth left on that side and says she wants them out. Her husband is a physician and suspects a brain tumor. He does not believe the teeth are the cause of the trouble, but wants them extracted to ease her mind.

A. H. G.

ANSWER.—When you extracted the impacted third molar, without any doubt the inferior fifth nerve was injured and also possibly the artery. This would account for the numbness and the slowness in responding to tests.

Most likely the extractions will not do any good, and conditions will get better only as the nerve regenerates. This may be a question of months. An x-ray might possibly show any impingement on the nerve canal, and if this is the case, it should of course be removed.

Injury to the nerve from the extraction of an impacted lower third molar is by no means uncommon. It is not pleasant, but generally rights itself with time.

Editor, Practical Hints:

I have a lady patient, aged about 50, at present confined in bed because of a paralytic stroke. She has now been in bed for at least three months.

This patient has only her lower anterior teeth and wears a full upper denture. I was called in on account of a severe burning or smarting condition of the gums in the lower jaw. I discovered that she has a bad case of pyorrhea, and that the teeth really should be extracted, which is impossible at this time on account of her condition.

I gave the remaining teeth a careful prophylaxis and have been treating the gums successfully and with good improvement, but the smarting of the gums still persists—that is what puzzles me.

I consulted her physician, and he is not giving her any medicine at all, except a mild sedative once in a while. She is unable to talk and is always rubbing her gums with her finger.

Her upper jaw has shrunk so much since this stroke that it is almost impossible to rebase the upper denture.

This smarting condition is not only in the anterior but also in the posterior, where there are no teeth.

I should appreciate an immediate answer as to the smarting and excessive shrinkage of her gums.

A. A. G.

ANSWER.—The burning sensation is due, without doubt, to an irritation of the fifth nerve. This may be the result of the shock or of poisons absorbed from the pyorrhea. Since you have improved the condition of the mouth, we should be inclined to believe in the former theory and consequently we do not see that anything can be done.

In regard to the excessive shrinkage of the gums, probably this is indirectly due to the stroke. Any serious pathological condition will be reflected in the mouth, and if the nerves are interfered with, then the circulation will be impaired.

It appears as if under the present conditions you are helpless, and the condition should be explained to the patient's family.

Editor, Practical Hints:

Will you kindly send the advice about overcoming nausea that was given in the January, 1924, DENTAL DIGEST?

E. D.

"Everything, such as trays, hot water, etc., was made ready for immediate use. The 1/6 gr. sulphate of morphine was injected in the patient's arm. Eight minutes after the injection I could place my finger in the patient's throat with impunity. The impressions were taken without any trouble."

Editor, Practical Hints:

I am at a loss with the failure I have most of the time with my castings, especially M. O. D.'s. They fail to fit the model on the occlusal surface, as well as the tooth. They seem to stand out of reach of the walls of that surface in spite of the fact that they are sharply cast and the proximals fit very well.

I use two sprues to cast them and an air-pressure casting machine.

My impressions are very definite and so are the models. The patterns are properly manipulated.

Where shall I look for the trouble?

P. G. S.

ANSWER.—Without knowing the details of the technic you use I am inclined to believe that your trouble is due to the expansion of the gold when cast. In the December issue of THE DENTAL DIGEST was published a summary of a paper by Dr. Maves on *Partial Control of Failures and Variables in the Casting Process*.

A number of men cast M. O. D. inlays in two parts, interlocking them on the occlusal surface. This diminishes the total amount of variation.

Editor, Practical Hints:

I am writing to you in regard to the swelling following my extractions. About one-third of my extractions are followed by swelling the day after removing a tooth in the upper or lower jaw alike.

I boil my syringes in an aluminum pan separate from my forceps. I boil the distilled water in a cup made of sterling and then add three

novocain tablets to every 3 c.c. of water. The tablets each contain enough salt to make a normal physiological solution in 1 c.c. of distilled water.

I paint the point of injection with iodine and am careful not to use too much or undue force in injecting the solution. I never use over 3 c.c. of the solution and seldom use that much. I use the Luer type of syringe with platinum needle and follow Dr. Nevin's technic for injection.

I am aware of the fact that undue trauma in extracting will cause swelling, and that swelling is one of the signs of inflammation. Otherwise I have been unable to account for the swelling following my extractions.

L. K. S.

ANSWER.—There are only about three things that cause swelling after extraction under local anesthesia: (1) a break in asepsis, (2) injection into an abscessed area, and (3) trauma from the extraction.

The first thing advisable in your case would be to change from tablets to ampules. This method is quicker and safer and affords less opportunity for contamination. Lengthen the time for sterilizing the syringe, and be very careful of its subsequent handling. Use iridio-platinum needles at all times and flame them before and after filling the syringe. Unless you have been distilling your own water, you have left open one way for contamination, because drug stores are notoriously careless in the handling of this product.

The remedy for the second cause is evident, but it is almost impossible sometimes to avoid excessive trauma, and in these cases a reaction is to be expected.



CORRESPONDENCE

Editor, *Dental Digest*:

The article *What's the Matter with Dentistry?* in the July issue of THE DENTAL DIGEST prompts me to list as factors the following:

Public ignorance of health, surgical and dental matters.

Chain-store and monthly-payment ideas of buying.

Commodity idea of purchase of filling or plate or x-ray, and no idea of personal service.

The ability of some dentists in cities to sell dentistry and get notes and collect by methods hardly suitable for small places.

The advertiser who offers low fees and then talks them into more money.

Public suspicion that value is not given, and that the dentist makes his money easily.

The lawyer is paid for what he knows, but the dentist for what he does and not for his advice, except rarely.

Dentists work too much alone in uneconomic offices and rarely get together as do physicians by means of hospital work and clinics.

Dentists are afraid of each other in small places (especially if crowded) and run each other down.

Older dentists who can give long credit and work long hours for small fees and keep busy all the time can drive to the wall the young man with high standards of work and a living fee.

It is hardly reasonable that a man licensed to practice in Portland should have to run the "exams" and expense of getting a license to practice in Boston or anywhere else.

It is no wonder that every one is out for himself. All these things make it pretty hard for the new man to get a start unless he has money behind him, and the lad who works his way rarely has much backing.

These are the problems I have met in five years of practice, and I have found no workable ethical professional method or plan to change them. Has anyone else?

The solution would be worth a great deal to hundreds of dentists.

AN ONTARIO DENTIST

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of The Dental Digest, 220 West 42nd Street, New York City.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE, CARE THE DENTAL DIGEST, 220 WEST 42ND ST., NEW YORK. YOU MAY HELP A NUMBER OF GIRLS WHO ARE JUST BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. OR IF YOU NEED HELP NOW WRITE TO ELSIE PIERCE—SHE'LL HELP YOU.

Dear Miss Pierce:

Could you give me any advice as to the method for removing x-ray developing and fixing solution stains from uniforms? They are a musty yellow.

L. F. T. Boston

ANSWER.—A method for the removal of stains caused by x-ray developing fluid was given in the January issue. We repeat it for dental assistants who may have failed to read that issue or who are new in the field.

Soak the stained portions in a 5% solution of oxalic acid or acetic acid for approximately two minutes, carefully wash out in clear water for from one to two minutes, and then apply a saturated solution of bleaching powder (calcium hypochlorite). If after ten minutes the stains have not entirely disappeared, we suggest washing out the bleaching powder thoroughly and repeating the formula from the beginning. Fixing solution stains can be removed by washing with soap and water.

Dear Miss Pierce:

I am working in a dental office and am in need of information regarding dental assisting, as I am new in the field. Please help me.

M., Illinois

ANSWER.—To attempt to give you detailed information regarding the work of dental assisting would require more space than we have at our disposal. However, we will endeavor to cover some of the major points.

(1) Every office has its own routine procedure, which is established by the dentist to meet the requirements of his patients and his personal methods of service and operative technic. Familiarize yourself with the procedure of the office with which you are associated by carefully observing the doctor's wishes and making such notes as you may need in a memorandum book which you can conveniently carry in your uniform pocket, supplementing this with questions about those things that are doubtful in your mind, tactfully asked at times when there are no patients in the office, and noting the answers.

(2) Strict attention must be given to the doctor's instructions and explanations so as to avoid his having to repeat them. Nothing annoys a professional man more than to have to repeat instructions constantly, especially before his patients.

(3) Familiarize yourself with the dental literature that comes into the office and that which is in the doctor's library and select that which may help you, such as articles on office procedure, dental economics, sterilization, the manipulation of synthetic porcelains, cements, alloys, etc., the care of equipment and instruments. Some of the advertising data and pamphlets that come to the office contain many points of value, and the dental supply house catalogs will give you illustrations of the various types of instruments and their names and uses. You will also profit by reading up on bacteriology, anatomy of the head, dental hygiene, diet, etc., which will familiarize you with certain terms that you will hear the doctor use in his advice and conversations with patients.

(4) Take advantage of the demonstrations given by the dental supply houses on the care and use of the various materials used in dental operations. An hour or two of practical instruction will very materially help you in the proper mixing of the various types of filling materials, and I am certain that the doctor will be glad to have you take advantage of this instruction if you plan your routine work so as to be always up to the minute. If necessary, make up the time by coming in a few minutes earlier in the morning or remaining a few moments at the close of office hours. Talk this over with him and secure his cooperation, for it will be to his advantage and save him the trouble of teaching you.

(5) If there is a society for dental assistants in your city, join it and become an active member. Take advantage of the classes, the clinics, the lectures, the library—everything that the society has to offer for further education in your work. Attend such dental meetings and

clinics as will help you grasp a broader knowledge of what the dental profession is doing for health service.

Coupled with the suggestions above, be cheerful, always remembering that a smile helps one over many rough spots in the daily grind; be tactful, always endeavoring to do and say the right thing at the right time; be willing without being obtrusive; be courteous (especially over the telephone); cultivate a soft, well modulated voice and a respectful but dignified manner; be sympathetic but never effusive, and do not chat nor gossip with patients, especially on personal topics; be neat in appearance, always wearing clean white uniforms, shoes and stockings, but wear no costume jewelry nor lavish cosmetics; keep hair and hands well groomed, and I am sure you will be regarded as an asset to the office by your employer and a wonderful assistant by his patients.

Real education is the result of observation, and efficiency is putting one's observations into practice.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

The Educational and Efficiency Society for Dental Assistants, New York, will resume its activities with the start of the new season in October. Its programs for the year will include addresses by able speakers at the regular meetings, classes in subjects bearing directly on the assistant's work, clinics, and study clubs.

It is the purpose of the Society to help raise the standard of education for the dental assistant in order that she may better understand and support the highest ideals of the profession of dentistry, and so that she may become more competent in her service to both dentist and patient. Classes are held each week and include such studies as chair assistance, x-ray and laboratory assistance, bookkeeping and accounting, sterilization, first aid, and others relating to dental assisting. Clinics are presented by members of the Clinic Club on various phases of the assistant's work, showing more efficient methods. The Library contains many articles culled from the dental press on subjects of interest and value to dental assistants.

The regular meetings of the Society are held on the second Tuesday of each month, October to May, inclusive, at the Academy of Medicine, 2 East 103rd Street, New York. A cordial welcome is extended to the members of the dental profession and to their assistants.

The Educational and Efficiency Society for Dental Assistants, New York, will hold its first meeting of the 1928-1929 season on Tuesday, October 9, 1928, at 8:00 P. M.

The Functions and Possibilities of the Office Girl*

By Miles J. Breuer, M.A., M.D., F.A.C.P., Lincoln, Nebraska

Everyone knows the story of the three laborers working side by side, one of whom, when asked what he was doing, replied, "Cutting stone"; a second said that he was earning five dollars a day; and a third stated that he was building a cathedral.

At first thought one might say that a doctor's office girl should keep his books, answer the telephone, ask people to be seated when he is busy; and in the same vein I might say, draw her salary. Girls who can do that, and do it well, are plentiful and easy to get; if you lose one, do not worry, for you can easily get twenty more.

But keep your eyes open for a girl who has a vision for some of the wider possibilities of her job. If you get one like that, train her in accordance with her capacity; take the time and trouble to make her see your side and the patient's side of her job. I know of girls who have been in doctor's offices for ten or fifteen years and who, during that time, have played a large part in building up their employers' businesses, as well as being indispensable to them in their work.

ACCESSORIES TO PERSONALITY

When you reach the stage where patients will be compelled to come to you whether they want to or not, and when your handling of patients is on such an objectively standardized basis that you can always depend on your therapeutic results, then you can consider yourself independent of the assistance that an office girl of the proper personality can give you. But, under the present conditions of medical practice, you must attract patients to you in the face of competition. Your therapeutic results are uncertain; medicine is not an exact science. For getting new patients and keeping old ones you depend on your personality and its accessories quite as much as you can do on your scientific training. Your office is one of the accessories of your personality, and your office girl is another very important one.

Medicine, as we have said, is not an exact science, and therapeutics is the less exact half of it. Our best therapists attest the truth of this by their methods, whether they are conscious of it or not; they depend quite as much upon psychological aids in their treatment as upon strictly scientific methods. If a patient comes to you in distress, mental or physical, and you are able to send him away much relieved, he is unable to distinguish how much of the relief was due to your per-

* From *Clinical Medicine*.

sonality and how much to your medicine. If his nervousness and his uneasiness have been soothed and his confidence restored by half an hour in a well-appointed office, in which a neat and pleasant-looking office girl has received him cheerfully and handled him tactfully, he will give credit for his improved state of feeling to the doctor's treatment.

REQUIREMENTS OF THE OFFICE GIRL

Of the things that an office girl can do to be of the proper assistance the first is to present an appropriate appearance. Personal good looks are more important in a doctor's office than anywhere else. This may, offhand, seem to make things difficult for the girl who is not naturally pretty, but only apparently so. Given good health, correct habits of living and common sense in taking care of herself, practically every girl can look pretty enough to meet the requirements. Neatness in dress and hair and a bright smile will effectively counterbalance any natural tendency to plainness of feature. A constantly pleasant facial expression and a cheerful tone of voice will win more people than a beauty-prize face.

The girl must actually be interested in the patient whom she is receiving. Especially if he comes more than once or twice, she should know him by name and recognize him as an old friend. We have all noticed how perfunctorily some of them say, "Be seated, please!" and how mechanically they ring for the doctor. How much better will the doctor's business grow if the girl can make the patient feel at his ease and convey to him the idea that the doctor is already thinking of him and anxious to get to him. She should somehow convey the subtle impression that the whole thing is something more than a business matter. She can never accomplish this by play-acting; she must really feel that the patient has come to the right place and that the doctor is going to get him out of his troubles. And she must really be concerned in getting the doctor's services for the waiting patient as speedily as possible.

Directly allied with the above is the help that a girl can give in arranging and caring for the office. A woman's hand can give a congenial touch to a waiting-room that a man's can never approach. This touch may mean the entire difference between keeping and losing people who are too restless to sit and wait. They will flee all the more quickly from a grim and forbidding waiting-room put together by a mere man, and the doctor may never see them again, for on their next effort they may have wandered into a waiting-room which had the proper touches to soothe their nervous haste.

AT THE TELEPHONE

Answering the telephone may seem a simple matter, yet, in a

doctor's office, it may sometimes become a very difficult thing; to do it successfully requires a girl with tact and presence of mind, and usually long training. For instance, I have gone driving around for a half-hour looking for the house of a patient because the girl made a mistake in taking the name or the address over the telephone. People calling a doctor's office are apt to become excited and the excitement is apt to infect the office girl, resulting in mistakes and failure to get the proper information. As a result, the doctor may arrive at a confinement case without his kit, or at an accident without emergency dressings.

The situation is especially difficult when the doctor is busy at something and cannot come to the telephone at once. Yet he would rather interrupt his work if the call is urgent than lose a good case. With the right amount of tact in her make-up a girl can find out who the caller is and what he wants. Most doctors are pestered a good deal during the day by numerous telephone calls; an experienced girl can do a great deal to sort out these calls, take messages, and even arrange routine matters herself, and thus save the doctor a great deal of interruption. Constant interruption is very damaging to the kind of work a doctor has to do. The wrong way for her to go at it is to demand peremptorily from the caller: "Who is this?" Most people resent that, and in these days of keen competition it takes very little to scare them off into trying another doctor.

Especially, the telephone voice must be clear and cheerful. Some voices sound sullen, and others are all muddled. This can all be overcome by training. Personality carries over the telephone wire; and the telephone girl can inspire confidence in her physician-employer.

Here is another hint. When I am called to the telephone, and some young lady says, "Just a moment, please," and then leaves me hanging in suspense, not knowing why or wherefore, I am very much annoyed; and when I am busy, I do not wait. It impresses me as being rude. When you ask your office girl to get some one on the wire for you, see to it that she first makes sure you are ready to talk at once when she gets the party. Then have her courteously tell the party, "Dr. Blank wishes to talk to you. Here he is; can you wait just a moment?" That is plain courtesy; it will avoid riling the other fellow's nerves and give him a better impression of your office.

RECEIVING PATIENTS

Also, it would seem that it is a simple matter to receive patients. All that is needed is to ask them to sit down and then announce their presence to the doctor. Yet, to do this properly, without friction, without getting on anyone's nerves, requires a great deal of tact, study and practice. To meet patients cheerfully and put them at their ease at

once, so that they are content to wait instead of fretting around impatiently, is an art. Some girls can do it, and some cannot; but most of them can learn it, if they cultivate it long and earnestly. This phase of the attention that the patient receives in your office is quite as important as his technical service; his treatment begins as soon as he enters the door. The impression of the first moment is the key which determines whether his worry and tension relax and confidence begins. The girl who receives him is the main feature of the impression of this first moment, and she can do much to make or spoil the doctor's whole undertaking.

The other half of the receiving job, that of announcing the patient to the doctor, is quite as important. Most of the time the doctor is concentrating intently on the matter he has in hand or is crowded, trying to do three or four things at a time; the sudden, rude announcement that "Mrs. Smith is in!" feels to him like a blow on the head with a club, and he would rather see Mrs. Smith in Gehenna at that particular moment. He is literally gasping for breath, and here comes Mrs. Smith, the straw that broke the camel's back. He groans. Yet he knows, and the office girl knows, that Mrs. Smith must never find it out. Not the least hint of the doctor's desperate situation must the office girl convey to Mrs. Smith. The latter must be made to feel welcome and given the impression that in just a moment the doctor will have nothing to do except to look after her pleasantly. Only thus can business be built up nowadays.

HELPING THE DOCTOR

But, as well as being amiable to Mrs. Smith, the office girl must be tactful to the doctor. His work is different from that of a soda-fountain clerk, whose main job is to hop around in a dozen directions at once; it requires concentration, clear thinking and close attention. He is constantly solving difficult problems and, literally, at the same time planning work ahead, like a chess-player. If, in the middle of this, the office girl is constantly breaking in and blurting out, "Mr. Jones wants to know how soon you can see him," she is jamming the machinery which it is her duty to keep running smoothly. She is the go-between who sees to it that the patient gets prompt service and a fair deal, and who at the same time protects the doctor from having his work spoiled by needless and annoying interruptions, without at the same time letting the waiting patients get away. The doctor can afford neither to have his work ruined by constant interruptions nor to let patients get away because of their unwillingness to wait a half-hour. This looks like a hard job for the office girl; and it is. It requires judgment and knowledge of human nature and can be acquired only after study and experience.

While, as a rule, it is best for an office girl not to get into too intimate conversations with waiting patients, still there are times when she must talk to them. Opportunities for cleverly concealed salesmanship are numerous. A doctor cannot use ordinary salesmen and their methods, but he is justified in taking advantage of whatever psychology and human nature offer him. For the office girl to put in an enthusiastic remark now and then about her employer's ability, to assure doubting and hesitating newcomers in an unobtrusive way that he is competent to handle their troubles, is quite within her province and is a therapeutic accessory of real value. It actually and concretely helps get patients well.

A BUSINESS MANAGER

Only some of the more prominent men and larger groups have a special bookkeeper and credit manager. Most of us have to get along with one or two girls to do all of our work, and we must train them ourselves. We have to be our own credit managers, and most of us are pretty poor at it. Yet the office girl can learn to handle the credit end at least as well as you can; in many ways she can do it more efficiently than you. She can get acquainted with people and their circumstances, make decisions as to whom to trust, and how much to charge, and when and how hard to press debtors and to look after collections. A girl can do this successfully, but not during the first week of her job, nor even during the first year.

The scientific end of a medical practice takes all the time and energy that one man can expend on it; he should be free from petty business worries so that he may better look after his patients' welfare and be a better doctor, thereby attracting more and better-paying patients.

I know a doctor whose office girl calls him down when he writes checks too freely. In other words, she watches his overhead. A doctor's office is a place where tremendous leaks are possible; what with instruments, drugs, fixtures, laundry, etc., a great deal of money can slip through the fingers carelessly. A girl can keep a better eye on this than the doctor can, and take care that useless and preventable expense is not incurred by the wasting of towels, dressings, stationery, etc., by looking carefully after perishable material, such as needles, glassware, etc. Keeping down overhead is an important part of the office girl's duties.

ADVANCEMENT FOR THE OFFICE GIRL

If she wants to work and learn and advance, there is no limit to the possibilities of accomplishment. The following are some brief suggestions, indicating the direction which her advancement may take. They are all based on the principle that a doctor's work is highly skilled work; that the time he puts on unskilled work is time wasted so far as

his progress is concerned. As far as possible he should avoid putting time on the doing of unskilled work and put it on work for which he is especially fitted. No man ever achieved much success who put all his time on detail work. A clever young lady can learn to do a great many things that will speed the doctor's work with his patients and save his time. Here are some of the things for which she can assume responsibility:

Keep his emergency and kit bags in order, cleaned, filled with supplies, ready for instant use.

Take down history and examination data while he is examining patients. If he does not have to do the writing, the examination takes but half the time that it otherwise would.

In histories and examinations, obtain from the patient those portions which do not require special skill, such as civil data, height, weight, pulse rate, temperature, blood-pressure, etc.

Do the simpler laboratory work. I have taken a number of young ladies who had never had any preparatory training and made good technicians out of them, both for laboratory work and for physiotherapy. It requires a little time and patience.

A girl can learn to do a good deal of watching and scheduling of the doctor's time, making and recording appointments and seeing to it that he keeps them; and even keeping an eye on his time as expended during the day and seeing to it that he gets paid for it.

The position of doctor's office girl is not an easy one. It is not even the best paid in the world. Doctors never make enough money to pay the salaries that some employers do. However, most doctors' office girls like their work. It is interesting, and is certainly not monotonous. There is a consciousness that one is helping to do good among people, and a satisfaction in being essential toward helping a good work go forward and in being indispensably essential in whatever success the doctor does achieve.

201 Security Mutual Building.





A BOOK MAY BE AS GREAT A THING AS A BATTLE—DISRAELI

Bone As a Measure of Development, by J. S. Foote, A.M., M.D., LL.D., published under the auspices of the Scientific Foundation and Research Commission of the American Dental Association.

This book represents the beginning of an extensive and exhaustive study that was cut off by the untimely death of the author. The book will be of interest to all the men in our profession who have the inclination to escape from the petty details of their offices and gain some idea of the gradual development of man as expressed in the biography of his bones.

The author claims that the type of bone influences the personality, and that social classes are founded upon biological differences in origin. He further makes the assertion that, although the head hunter of Borneo and Sir Isaac Newton may have lived at the same time, they did not start from the same point. This cannot be accounted for by environment and is due to a difference in their biologic foundation. The difference is to be found in the types of bone, which represent different levels in vertebrate history.

From a study of bone the author concludes that man is not a finished product, though it is impossible to say what the perfect man will be. "Sex seems to be a peculiar endowment of protoplasm for the purpose of its continuation and links the past to the present and the present to the future by a promise which does not fail. It keeps the animated world moving toward an objective by installing the steps of an ascending stairway, which may be called stations or levels." The levels that have been established can be seen in bone.

The first part of the book is far from being dryly scientific. A careful reading will provide much food for thought and will be well worth the time spent.

276 pp., illustrated, with index. Omaha, Nebraska: Press Douglas Printing Company, 1928.—A. M. J.

Dentition as a Measure of Maturity, by Psyche Cattell, Research Associate in Psycho-Educational Clinic, Harvard University.

This monograph is an attempt to arrive at some definite relation-

ship between the dentition and the physical development of the child. In so far as the reviewer can ascertain, the author reaches no satisfactory conclusion.

Dentists know only too well the great variations in the time of eruption of the various teeth with no evident variation in the physical development of the child, and when the number of teeth present at a given time is taken as an index of the development, the study is further complicated by the fact that almost any number of teeth may be congenitally missing. An x-ray would be the only way to check up on this point.

This is not meant to imply that such studies are of little value. The more information that can be gathered in regard to the teeth, the richer will be the profession. This monograph is full of interesting data.

87 pp., with 31 tables, 36 figures and bibliography. Cambridge, Mass.: Harvard University Press, 1928.—A. M. J.





EXTRACTIONS



No Literature can have a long continuance if not diversified with humor—ADDISON

Chicago—the town where nobody dies of old age.

(Patient)—Doc, I've lost a front tooth.

(Dentist)—An upper incisor?

(Patient)—Naw, a right hook to the beezee!

A comical
Spectacle
Is presented
By the intellectual man
Trying to make
His mind superior
To the matter
That composes a golf ball.

A LINCOLN STORY

It was arranged that Lincoln should look over the plans of Ericsson's new ship Monitor, and when leaving the room was asked: "Well, Mr. President, what do you think of it?"

President Lincoln replied, as he was removing his spectacles, "Well, as the Western girl said as she pulled on her stocking, I think there's something in it."

(Bozo)—Hello, Chi.; I hear you are just back from a trip through Europe.

(Chicago Man)—Yep, and had a good time.

(Bozo)—How long did you stay in Venice?

(Chi.)—Only half a day. The darn place was flooded. People going around the streets in boats. Big rainy season, probably.

(Disgusted Diner)—You can't expect me to eat this stuff! Call the manager!

(Waiter)—It's no use; he won't eat it either!

PUTTING THE OLD MAN RIGHT

Little Betty was bragging about her ability to add. Her uncle gave her a problem to solve.

"If I gave you two rabbits in the morning and three rabbits in the afternoon, how many rabbits would you have?" inquired the uncle.

"Six!" cried little Betty.

"Just as I thought. Two and three are six, ha! ha!"

"But uncle," said little Betty earnestly, "I already have one."

Philanthropist—A man who gives it back.

(Arithmetic Teacher).—Johnny, if your father earned forty dollars a week and gave your mother half, what would she have?

(Johnny)—Heart failure.

THE MAGIC MAN

A commuter rushed into a grocery store and exclaimed, "Quick! Give me a bag of flour, half dozen eggs, a pound of butter and a bottle of milk. I want to make a train."

Kisses spread pyorrhea—but four out of five won't believe a word of it.

THE LAW OF COMPENSATION

Gov. Smith's pet donkey or burro kept in his private zoo is dead. The omnifinders were busily explaining that this looked bad for the Democrats, when dispatches appeared in the papers saying that an elephant fell into a well in Oklahoma and could not be rescued.

It looks now as if the entire Arctic region will be explored by hunting for lost explorers.

What has become of the old-fashioned mother who told her daughter that it was not nice to look into a barber shop as she passed.

OUR APOLOGIST SAYS:

It is only in the nature of things that our streets should be dirtier than those of any European city. In this rich country we have so much more to throw away.

(Ding)—I say, old chap, you didn't finish telling me about that great optometrist you said you knew.

(Dong)—Quite so. Well, his doctor told him he had only a month to live, and he is now learning to play the harp.

The week's prize doughnut goes to the man who, when he heard Tunney praised for building himself up from a middleweight to heavyweight champion in eight years, growled: "I only weighed seven pounds when I was born."

FUTURE EVENTS

THE ST. LOUIS STUDY CLUB OF DENTISTRY, organized in 1919 for the purpose of teaching advanced dental subjects to ethical dentists, without charge, will open its eleventh annual session on Wednesday, October 3, 1928.

The sessions will be held from 8:00 to 10:00 P. M. All classes are to be given at the St. Louis University Dental College.

The following classes will be covered during this term:

Dental Roentgenology	Rizadontia
Fixed Bridgework	Operative Dentistry
Full Dentures	Dental Economics
Dental Ceramics	Clinical Dental Prophylaxis
Conduction and Local Anesthesia	Anatomy and Dissection of the Head
Oral Diagnosis and Diseases of the Mouth	

Bulletins giving detailed information regarding the Study Club and its courses may be had by addressing

DR. F. C. RODGERS,
309 Wall Building, St. Louis, Mo.

THE ALAMEDA COUNTY DISTRICT DENTAL SOCIETY has completed plans for holding a convention in the form of "a practical demonstration of practical dentistry" at the Hotel Leamington, Oakland, California, October 4-6, 1928.

Some forty-five noted dentists will give clinics, among whom are R. H. Volland of Iowa, President of the American Dental Association; Richard H. Reithmuller, Frank Kaiser, Carl D. Lucas, Donald Smith, Harry R. Potter and others. Moving pictures will be shown by Hugh Avery on *The Preparation of the Tooth for and in Making of Porcelain Jacket Crowns*, while Sanford Moose will show several reels on *Gas Anesthesia* and the operations for cysts and cleft palate.

There will be a banquet on the evening of October 4th, when Hon. John L. McNab, who nominated Herbert Hoover for President of the United States, will be the principal speaker.

All ethical dentists, whether members of a dental society or not, are cordially invited and urged to attend this unusual convention. The presentation of your business card is your only admission fee.

S. WINSTON HARRISON, *Publicity Chairman*,
Wakefield Building, Oakland, California.

THE NORTHERN ILLINOIS DENTAL SOCIETY will hold its forty-first Annual Meeting at Joliet, Ill., October 10-11, 1928.

P. G. UNDERWOOD, *Secretary*,
Elgin, Illinois.

THE TRI-STATE CLINIC meets in Memphis, Tennessee, October 15-16, 1928.

An intensive program of Preventive Dentistry has been arranged for two days and one evening.

Such men as Drs. Thaddeus P. Hyatt, Russell W. Bunting, Sherman L. Davis, Arthur H. Merritt and Boyd S. Gardner will lecture and clinic.

Attendance is limited to two hundred and fifty, and a fee will be charged to defray actual expenses. Reservations will be made in order of their receipt.

For further information, address

TERRELL R. OGDEN, *Secretary*,
628 Medical Arts Bldg., Memphis, Tenn.

THE INDIANA BOARD OF DENTAL EXAMINERS will meet at 8:00 A. M., November 12, 1928, at the State House, Indianapolis, Indiana, in the House of Representatives Room, for the purpose of examining all applicants with proper credentials. All applications should be in the hands of the Secretary one week before the Board meeting.

For applications, clinical requirements and other information, address

J. M. HALE, *Secretary-Treasurer*,
Mt. Vernon, Indiana.

THE FIRST DISTRICT DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its fourth annual December Meeting for Better Dentistry, at the Hotel Pennsylvania, New York, December 3-6, 1928.

There will be an extra day of clinics and lectures this year. The list of essayists and clinicians is about ready and will be announced at an early date.

The same plan of subscription will be continued this year as heretofore, admitting a member to all lectures, clinics, etc.

A subscription blank and list of clinics will be ready for circularization by November 1st.

There will be a manufacturers' exhibit in the hotel during the meeting.

JOHN T. HANKS, *Chairman*,
17 Park Avenue, New York, N. Y.

THE COLORADO STATE BOARD OF DENTAL EXAMINERS will hold its semi-annual examination in Denver for five days commencing December 4, 1928. For information, address

WM. H. FLINT, D.D.S., *Secretary*,
Littleton, Colorado.

THE CHICAGO DENTAL SOCIETY will hold its sixty-fifth annual meeting and clinic January 14-16, 1929.

The Chicago Dental Society wishes to announce its 1929 Annual Meeting and Clinic at the STEVENS HOTEL. Please take notice of change from the Drake Hotel to the Stevens Hotel with its three thousand rooms and with ideal conditions for staging the yearly classic.

All members of the American Dental Association are cordially invited to

attend. Preliminary programs will be mailed to all members of the A. D. A. sometime in December of this year. The program will be divided into eight sections, as follows:

Section I—Operative Dentistry.

Chairman: O. J. Olafsson, 55 East Washington Street.

Secretary: E. J. Krejci, 7060 Clyde Avenue.

Section II—Full Dentures.

Chairman: R. O. Schlosser, Northwestern University.

Secretary: E. C. Pendleton, Chicago College.

Section III—Partial Dentures; Crown and Bridge.

Chairman: Stanley D. Tylman, 185 North Wabash Avenue.

Secretary: W. H. Kubacki, 2949 Milwaukee Avenue.

Section IV—Mouth Hygiene, Children's Dentistry.

Chairman: E. E. Graham, 58 East Washington Street.

Secretary: E. W. Swanson, 25 East Washington Street.

Section V—Orthodontia.

Chairman: B. O. Sippy, 30 North Michigan Avenue.

Secretary: C. R. Baker, 708 Church Street, Evanston.

Section VI—Oral Pathology.

Chairman: E. H. Hatton, Northwestern University.

Secretary: J. R. Blayney, University of Illinois.

Section VII—Oral Surgery.

Chairman: J. E. Schaefer, 55 East Washington Street.

Secretary: Eli Olech, 4259 West Madison Street.

Section VIII—Radiology.

Chairman: E. H. Thomas, 30 North Michigan Boulevard.

Secretary: M. A. Root, 636 Church Street, Evanston.

The Program Committee is under the direction of Frederick B. Noyes, assisted by Stanley D. Tylman, Vice-Chairman; I. G. Jirka, Charles R. Baker and Howard Alexander.

LOUIS E. JELINEK, *President,*

HUGO G. FISHER, *Secretary,*

185 North Wabash Avenue, Chicago, Ill.

